

TCH 341 Teaching Elementary Math  
Assessment Notes

Recommended Shifts in Mathematics Instruction

Shift	Away from	→	Toward
Content	Just arithmetic		A variety of topics and problem situations
Learning	Memorizing and repeating		Investigating problems
Teaching	Telling		Questioning and listening
Evaluation	A single test judged externally		Evidence from several sources
Expectation	Just mastering isolated concepts and procedures		Using concepts and procedures to solve problems (see that things are interrelated)

Six Assessment Standards

1. The Mathematics Standard – assessment must reflect the five content and five process standards
2. The Learning Standard – assessment must be built into instruction to communicate with the student during the learning process
3. The Equity Standard – we must have high expectations for all students including those with special needs; we must also respect the needs of each individual learner
4. The Openness Standard – students should know what is expected of them →
5. The Inferences Standard – teachers must reflect on what individual student performances tell them about what students know – the use of multiple assessments helps
6. The Coherence Standard – students should be assessed using the same methods, materials and approaches with which they learn

Purposes of Assessment

- Monitor student progress → ongoing, daily
- Make instructional decisions
- Evaluate student achievement → at the end of lesson/unit
- Evaluate programs

What Should be Assessed?

- Concepts and procedures
- Mathematical process
- Disposition → get children's thoughts/feelings



## Problems Used for Instruction/Assessment

- There must be a correlation between instruction and assessment
- There are three features of problems used for instruction/assessment
  - Problems must begin where the students are
  - The problematic or engaging part of the problem must be due to the mathematics the students are to learn
  - Problems must require justifications and explanations for answers and methods
- When selecting a problem for assessment, be very clear about what you want to assess. Consider objectives ahead of time, as well as assessment...

## Types of Assessments

- Achievement tests
  - Standardized tests
    - Norm referenced  $\rightarrow$  compares results to other peers
    - Criterion referenced  $\rightarrow$  refers to criteria
  - Teacher-made tests
- Diagnostic tests  $\rightarrow$  individual diagnosis of student's abilities
- Observations
  - Anecdotal records
  - Observation rubrics
  - Checklists or forms for individuals or full classes
- Conferences/interviews
- Performance assessment
- Portfolio assessment
- Self assessment



(what they know & what they don't know)

## Scoring Rubrics

1. Simple or holistic rubrics - usually a three to six point score that addresses the response as a whole using performance indicators which describes what performance looks like at each level (can only use whole #s, add more points instead of using half pts.)
    - # value
  2. Analytic rubric - allows focus on different aspects of the problem
    - ex: Thinking (3,2,1) Process (3,2,1) Answer (3,2,1)
    - $\rightarrow$  pay attn. to scores and values...
- Thoughts on Grading!**
- What is graded is valued
  - The grades you assign should reflect your objectives