Principles of Learning

Organizing for Effort
- Clear and high expectations.
- Fair and credible evaluations.
- Recognition of accomplishment.
- Curriculum geared to standards.

Clear Expectations
- Standards available and discussed.
- Models of student work.
- Students judge their own and others' work.
- Intermediate expectations specified.
- Families and community informed.

Fair and Credible Evaluations
- Exams referenced to standards.
- Curriculum and assessments aligned.
- Grading against absolute standards, not curve.
- Reporting system makes clear how students are progressing toward expected standards.
- Public accountability systems and instructional assessments aligned.

Recognition of Accomplishment
- Frequent recognition of student work.
- Recognition for real accomplishment.
- Clearly demarcated progress points.
- Celebration with family and community.
- Employers and colleges recognize accomplishments.

Academic Rigor in a Thinking Curriculum
- Commitment to a Knowledge Core
  - An articulated curriculum that avoids needless repetition and progressively deepens understanding of core concepts.
  - Curriculum and instruction organized around major concepts.
  - Teaching and assessment focus on mastery of core concepts.
- High Thinking Demand
  - Students expected to raise questions, to solve problems, to reason.
  - Challenging assignments in every subject.
  - Extended projects.
  - Explanations and justification expected.
  - Reflection on learning strategies.
- Active Use of Knowledge
  - Synthesize several sources of information
  - Test understanding by applying and discussing concepts.
  - Apply prior knowledge.
  - Interpret texts and construct solutions.

Organizing for Effort

Accountable Talk^{SM}

Clear Expectations

Fair and Credible Evaluations

Socializing Intelligence

Recognition of Accomplishment

Self-management of Learning

Academic Rigor in a Thinking Curriculum

Learning as Apprenticeship

Accountable Talk^{SM}
- Accountability to the Learning Community
  - Students actively participate in classroom talk.
  - Listen attentively.
  - Elaborate and build on each other's ideas.
  - Work to clarify or expand a proposition.
- Accountability to Knowledge
  - Specific and accurate knowledge.
  - Appropriate evidence for claims and arguments.
  - Commitment to getting it right.
- Accountability to Rigorous Thinking
  - Synthesize several sources of information.
  - Construct explanations and test understanding of concepts.
  - Formulate conjectures and hypotheses.
  - Employ generally accepted standards of reasoning.
  - Challenge the quality of evidence and reasoning.

Socializing Intelligence
- Beliefs
  - I have the right and obligation to understand and making things work.
  - Problems can be analyzed and I am capable of that analysis.
- Skills
  - A toolkit of problem-analysis skills (meta-cognitive strategies) and good intuition about when to use them.
  - Knowing how to ask questions, seek help, and get enough information to solve problems.
- Dispositions
  - Habits of mind.
  - Tendency to try actively to analyze problems, ask questions, get information.

Self-management of Learning
- Meta-cognitive strategies explicitly modeled, identified, discussed, and practiced.
- Students play active role in monitoring and managing the quality of their learning.
- Teachers scaffold student performance during initial learning, gradually remove supports.
- Students become agents of their own learning.

Learning as Apprenticeship
- Students create authentic products and performances for interested critical audiences.
- Experts critique and guide student work.
- Finished work meets public standards of quality.
- Learning strategies are modeled.

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