Workshop 4:
Reworking the Curriculum

PRINCIPLE: Principal as Courage Provider

FOCUS QUESTION: How "safe" is playing it safe? How much courage do we need to really change the curriculum?

Principals are looking at new ways to stress authentic knowledge. One way to get there is to change what is being taught by adopting one of the many research-based mathematics or science curriculum packages. This workshop examines how these new curriculum materials require both principals and teachers to show courage, patience, and endurance.

Preparatory Readings

We suggest that you read the following article, included in the Appendix at the back of this Guide, prior to viewing Workshop 4:

"Science Education—How Curriculum and Instruction are Evolving" (Freedman)

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Video Clips

Alice Clancy—Cranston Calvert Elementary School
"Kits"

This video shows an example of how kits can be a way to introduce new curricula at the elementary level. At Cranston Calvert Elementary School in Newport, RI, principal Alice Clancy asked teachers in her school to volunteer their time over the summer to receive professional development in using the kits—taking advantage of the locally-available infrastructure in support of the kits over the long term. This segment profiles a kindergarten teacher, Elaine Brown, who teaches with the kits in her classroom.

Evelyn Chidsey—Anderson Elementary School
"Technology lab"

Evelyn Chidsey is principal of Anderson Elementary School in Lawndale, CA,—a school in Los Angeles County with 900 students, approximately 50% Hispanic. A few years ago, the school received federal funds to build a computer lab and staff it with a full-time technology specialist. Evelyn had to overcome resistance from veteran teachers to implement her vision of a technology program in math and science, one where work in the lab is more directly related to classroom work.

Murry Schekman—Everett Alvarez High School
"IMP—Interactive Mathematics Program"

Everett Alvarez High School is a new school of approximately 2,500 students in Salinas, CA, about two hours south of San Francisco in a fast-growing community surrounded by an agricultural region. Principal Murry Schekman offers the Interactive Mathematics Program (IMP), a high school mathematics curriculum developed at the University of California–Berkeley as a parallel choice with the traditional math program. Currently, about one-third of the students choose IMP and two-thirds are in the traditional program. The video includes both traditional and IMP classes, IMP parents discussing how the program better serves the needs of their students, and a look at Murry's rationale for offering both programs. Also, we see how the IMP program has influenced teaching strategies in the traditional classroom.

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Research Data

NSF Funded Curriculum Project as of 1999

Math Standards	
High School	6
Middle School	7
Elementary School	3
Science Standards	
High School	8
Middle School	12
Elementary School	4

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Discussion Questions

(remember to choose a Structure from those listed on pages 12 to 14)

- How can I, as a principal stay, current, especially if math and science are not my strengths?
- How and when do I get real buy-in from my school community?
- How can I, as a principal, walk the fine line between risk-taking and playing it safe?
- How can a principal get teacher and parent buy-in when introducing innovative programs?
- If a principal can't just totally mandate a new curriculum, how much compromise is okay?
- Kits—is it about using them or not? Or is it about learning how to adapt them?
- How do we get truly sustainable change in curriculum?
- Where does the principal get the courage needed when there is so much political pressure to do the "traditional thing"?
- Technology: How integrated can it be? How meaningful can it be? Or does it just slow you down?
- Who determines the curriculum and how are these decisions made?

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DiRanna, K., et al. *Facilitator's Guide to Science Assessment.* CA Department of Education, CA Science Implementation Network, CA Science Project, Scope, Sequence, & Coordination Project, and Santa Barbara County Office of Education Region 8, 1995.

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Freedman, D. "Science Education-How Curriculum and Instruction Are Evolving." *Curriculum Update.* Alexandria, VA: Association for Supervision and Curriculum Development. Fall 1998: 1-4, 6, and 8.

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Mokros, J., S. J. Russell, and K. Economopoulis. *Beyond Arithmetic.* Palo Alto: Dale Seymour, 1995.

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National Research Council. *Guidelines for Aligning Instructional Materials with the National Science Education Standards.* Washington, DC: National Academy, In Press.

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National Science Resources Center. *Science for All Children: A Guide to Improving Elementary Science Education in Your School District.* Washington, DC: National Academy, 1997.

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Web Sites

Association for Supervision and Curriculum Development. Internet Address: http://www.ascd.org/

The Big Six Skills. Internet Address: http//edweb.sdsu.edu/edfirst/bigsix/bigsix.html

Blueprints for Reform from AAAS Project 2061. Internet Address: http://project2061.aaas.org/tools/bluepol/blpframe.html

Bringing the Science Standards into the Classroom. Internet Address: http://www.nap.edu/readingroom/books/nses/html/http://ehrweb.aaas.org/scinetlinks/science/indexshtml

The Center for Science, Mathematics, and Engineering Education. Internet Address: http://www4.nas.edu/csmee/center.nsf

Excite Curriculum search. Internet Address: http://www.excite.com/guide/education/teacher_resources/curriculum_materials

EXTEND. Internet Address: http://www.stolaf.edu/stolaf/other/extend/

GEM. Internet Address: http://www.the gateway.org

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Make It Happen! Internet Address: http://www.edc.org/FSC/MIH/i-search.html

Math Forum. Internet Address:
http://www.forum.swarthmore.edu/~sarah/Discussion.Sessions/biblio.assessment.html

MiddleWeb. Internet Address: http://www.middleweb.com/index1.html

NSF: Overview of curriculum/programs. Internet Address:
http://www.nsf.gov/home/programs/start.htm

Pathways to School Improvement. Internet Address: http//www.ncrel.org/sdrs/pathwayg.htm

Web Sites & Resources for Teachers. Internet Address: http//www.csun.edu/`vceed009/

Other Sources

Elementary Science Leadership Institutes. National Science Resources Center, Washington, DC. 202-282-2063

Global Systems Science (GSS). Lawrence Hall of Science, Berkeley, CA. 510- 642-9635.

Science and Technology for Children. Developed by the National Science Resources Center, Washington DC, 202-287-2063. Pub. Carolina Biological Supply Company, Burlington, NC. 800-334-5551.