



Show-Me Center Newsletter

February 2002
Volume 1, Issue 1

Teachers in over 4,000 U.S. school districts are using standards-based middle grades curriculum materials.

Inside this Issue:

MMM Videos	2
Conferences	3
Satellite News	4
Perspectives on Curriculum Reform	6
New Resources	8

FIRST EDITION HOT OFF THE PRESS

Barbara Reys, Director Show-Me Project

Welcome to the first edition of the Show-Me Project Newsletter. The Project is dedicated to collecting, organizing and disseminating information about standards-based middle grades mathematics curricula. The Project is a partnership of the University of Missouri and five NSF-supported curriculum development projects:

Connected Mathematics Project at Michigan State University

Mathematics in Context at the University of Wisconsin

MathScape at the Education

Development Center, Inc.

MATH *Thematics* at the University of Montana

Pathways to Algebra and Geometry at WestEd

The Show-Me Project is funded by the National Science Foundation through grant no. ES19714999.

Please see the Show-Me web site (<http://showmecenter.missouri.edu>) for more information about each set of curriculum materials as well as services of the project, or contact us at: center@showme.missouri.edu or (573) 882-2099.

NEW SHOW-ME WEB SITE FEATURES

Check it out! The Show-Me Web site (<http://showmecenter.missouri.edu>) has several new features including:

Video Showcase. Click on this feature to view 10 video-taped lessons of teachers and students using NSF standards-based middle grades curriculum materials.

Dissertation References. The Publications feature now includes references to dissertations that have studied some aspect of standards-based middle school curriculum implementation. The feature also includes a database of published articles and papers offering various perspectives on standards-based curriculum reform.

Conference 2002 News. Get information related to the next Show-Me Conference including registration form, conference announcement, conference site and a draft conference program.

Resources. Download five resources developed by the Show-Me staff, including this newsletter. The newest resource ("Show-Me Brief") is a summary of research related to implementation of standards-based middle grades mathematics curricula.

In addition to these features, you'll find the other popular features of the site, including the Curriculum Showcase, Conference Calendar, Sites & Stories and Links to Related Projects.





MMM Videos Now Available

Modeling Middle School Mathematics (MMM) is a professional development project funded by the National Science Foundation. The Project developed ten video lessons and supporting internet materials showcasing each of the five NSF-funded middle school mathematics curricula.

Every video lesson is drawn directly from one of the standards-based mathematics curricula and is taught by the regular classroom teacher to his/her students. The lessons are not scripted but based on the teacher's interpretation and implementation of the curriculum materials. In addition to watching the lesson unfold, the videos also

include conversations with the teacher reflecting on the lesson. Each video also includes comments from a curriculum developer highlighting the philosophy and structure of the curricula.

Ten videos are now available (2 per curriculum) in VHS format and through video streaming at the Show-Me web site (see "Video Showcase" on the Show-Me homepage at <http://showmecenter.missouri.edu>). The videos can be ordered individually or as a set (see ordering information below).

The matrix below indicates the mathematical content and grade of each video in the series.



10 Videos now available!

"Every video lesson is drawn directly from one of the standards-based mathematics curricula and is taught by the regular classroom teacher..."

	Number	Algebra	Geometry	Measure	Data Analysis
Pathways Jennifer Knudson		Finding the Best Insulation grade 8		Dream Houses grade 8	
MathScape Susan Jenkinson			String Shapes / Shaping Up grade 6		Looking Behind the Numbers grade 8
Math in Context Meg Meyer		V Patterns Rooms Hair & Nails grade 6	Looking at an Angle grade 7		
Connected Math Yvonne Grant	Looking for Squares grade 8			Designing Packages grade 7	
Math Thermatics Ann Williamson	Body Ratios grade 7				Trahhsketball grade 7

Pricing: 1-4 tapes - \$19.95 each 5+ tapes - \$15.00 each
 MMM 5 tape set (1 tape of each project) - \$72.00 per set

To place an order see: <http://www.peachekeen.com/bolstereducation/mmm/>

Show-Me Conference 2002

Showcasing Standards-Based Middle Grades Curriculum Materials

April 4-6, 2002
Sheraton Buckhead Hotel
Atlanta, Georgia

The Show-Me Center will sponsor a national conference showcasing NSF-funded standards-based middle grades mathematics curriculum on 4-6 April 2002 in Atlanta, GA. This conference is intended for

mathematics supervisors and teacher leaders who are implementing, or interested in learning about, NSF-supported middle school mathematics curricula. Registration is limited to 400 participants and will be confirmed on a first-come basis.

For information, e-mail the staff at center@showme.missouri.edu or see the Show-Me Center web site at <http://showmecenter.missouri.edu/conference/2002/>

“This conference is intended for mathematics supervisors and teacher leaders who are implementing, or interested in learning about, NSF-supported middle school mathematics curricula.”

Conference Co-Sponsors:

**Southern
Regional
Education
Board**

Southern Regional Education Board
 592 10th Street N.W.
 Atlanta, GA 30318
 (404) 875-9211
<http://www.sreb.org/>



Southeast Eisenhower Regional Consortium
 1203 Governor's Square Boulevard
 Suite 400
 Tallahassee, FL 32301
 (850) 671-6033
<http://www.serve.org/Eisenhower/>

Upcoming Conferences Spring/Summer 2002

For more information about the conferences, see the Show-Me web site:

<http://showmecenter.missouri.edu/>
 (click on "Conferences")

January

Middle School Mathematics Showcase,
 January 29-30, Greenbush, Kansas

February

Connected Mathematics Project: The 5th
 Annual Users' Conference, February 22-23,
 Michigan State University, East Lansing,
 Michigan

April

5th Annual Show-Me Curriculum Showcase,
 April 4-6, Atlanta, Georgia

June

Connected Mathematics Project Workshop:
 Getting to Know CMP, June 17-21, Lansing,
 Michigan

Connected Mathematics Project Workshop:
 Getting to Know CMP, June 24-28, Lansing,
 Michigan

July

Mathematics in Context: New Users
 Institute, July 10-12, Madison, Wisconsin

Mathematics in Context: Advanced Users
 Institute, July 10-12, Madison, Wisconsin

K-12 Standards-Based Mathematics
 Curriculum Showcase, Indiana Council of
 Teachers of Mathematics, July 25-26,
 Indianapolis, Indiana



5th Annual CMP
User's Conference
February 22-23, 2002

News from...

Connected Mathematics Project

During the past year, CMP has released two new documents: a revised *Getting To Know CMP* and *Connected Mathematics Project: Research and Evaluation Summary*. Both are available from Prentice Hall Publishers or can be downloaded from their web site: www.phschool.com.

The 2002 edition of *Connected Mathematics* contains a new feature. At the end of each unit, there is a section called, Looking Back/Looking Ahead. This feature serves as a unit review and reflection. A new investigation has been added at the end of the *Bits and Pieces II* unit-Investigation 7:

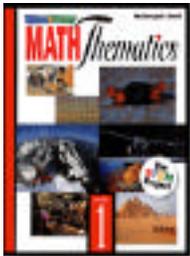
Dividing Fractions. These new pages can be downloaded from www.phschool.com. We also have a new updated web site. We welcome comments or suggestions. Please visit us at www.math.msu.edu/cmp

The 5th Annual CMP Users' Conference will be held on February 22-23, 2002 on the campus of Michigan State University. Two Getting To Know CMP workshops will be held in Lansing, Michigan on June 17-21, & June 24-28, 2000. More details can be obtained from the CMP web site: www.math.msu.edu/cmp

MATH Thematics

New features for *MATHThematics* 2002 include: *Computer Test and Practice Generator*; *Middle School Tutorial Software*; *Spanish Resources* for all three grade levels; *Manipulative Kits*; and consumable *Student Workbooks* that contain the Lab sheets, Practice and Application pages, and Study Guides. Coming soon will be a *MATHThematics Curriculum Overview and Program Effectiveness* booklet. This booklet will include a section on the program's impact on student achievement in mathematics. Also available are several new web features. While on www.mcdougallitell.com click on *ClassZone* and chose *MATHThematics*. You can

choose a book and module to review its table of contents and scope and sequence. The left side bar offers numerous links that are correlated to the books by modules and sections. Also, the side bar allows you to click on a *Research Zone* that launches into numerous connections to other related subject areas and facts. Visit www.shodor.org/interactivate/texts/thematics to find computer-enhanced explorations that contain lesson plans, discussions, student data sheets and other curriculum materials that are correlated directly to the *MATHThematics* modules.



Pathways

The MMAP/Pathways Implementation Center at WestEd provides implementation assistance for both Pathways and Middle School Mathematics through Applications (MMAP) products. This year, we are

providing intensive assistance and professional development in San Francisco and Cleveland. MMAP units, and soon, Pathways bins, are available through WestEd. Visit our revised website for information about the services we offer.



Mathematics in Context

MiC News from Encyclopaedia Britannica: EB has expanded their MiC sales force by hiring territorial representatives as well as using representatives from It's About Time. EB is making plans for a revision of MiC to include suggestions from teachers in the field. In addition, EB has recently launched MiC Online (<http://mic.britannica.com>). This website contains free resources for teachers including: unit content summaries, daily lesson planners,

core content sheets, software and video correlations, and related links. Additional unit-specific resources such as Balanced End of Unit Assessments, Interactive Manipulatives, Enhancement Activities, and Skill Builder Activities, are available by subscription. Plans are being made for a MiC summer institute for both new and advanced users July 10-12, 2002 in Madison, Wisconsin.



MathScape

The Center is proud to announce the launching of a new "For Teachers" section on our website. (<http://www.edc.org/mathscape>) The section will offer unit-specific, lesson-by-lesson teaching tips, assessment tips, and teacher resources and will be active by January 2002. The tips and resources offer a "teacher-to-teacher" perspective and are written by experienced *MathScape* teacher users. The Center is developing an evaluation report that is expected to be available on the website in mid-2002. It is also preparing a

comprehensive guide to implementing *MathScape* (also expected in late 2002). More news on the guide, including distribution information, will be available in mid-2002. In addition to these new projects, the Center continues to offer individualized implementation consultations and information on professional development from *MathScape*. For these services, please contact the Center by phone or email.



Show-Me Project Curriculum, Satellite Centers and Publishers

Curriculum	Show-Me Satellite Center	Publisher
<i>Connected Math Project</i> Gr. 6-8	Betty Phillips A717 Wells Hall Michigan State University East Lansing, MI 48824 (517) 432-2870 cmp@math.msu.edu www.msu.math.edu/cmp	Prentice-Hall http://Phschool.com/math/cmp
<i>Mathematics in Context</i> Gr. 5-8	Meg Meyer University of Wisconsin-Madison 575K Educational Sciences Bldg. Madison, WI 53706 (608) 263-1798 mrmeyer2@facstaff.wisc.edu	Encyclopaedia Britannica http://mic.britannica.com
<i>MATHThematics</i> Gr. 6-8	Rick Billstein Mathematics Department University of Montana Missoula, MT 59812 (406) 243-2603 rickb@selway.umt.edu	McDougal Littell http://www.classzone.com/maththem/
<i>MathScape</i> Gr. 6-8	Susan Janssen Education Development Center 55 Chapel Street Newton, MA 02458 (617) 969-7100 x3519 mathscape@edc.org www.edc.org/mathscape	Glencoe McGraw-Hill http://www.glencoe.com/sec/catalog/linkmath.html#ms
<i>Pathways to Algebra and Geometry</i> Gr. 6-8	Jennifer Knudsen MMAP Implementation Center 300 Lakeside 18 th floor Oakland, CA 946-3534 jknudse@wested.org (510) 302-4273 http://mmap.wested.org/pathways	No publisher at this time

Perspectives on Curriculum Reform

Curricular Controversy in the Math Wars: A Battle Without Winners

Robert E. Revs. Show-Me Center Staff

Note: For an expanded version of this article, see the November 2001 issue of Phi Delta Kappan or visit the Show-Me Center web site.

"...mathematics textbooks, even though developed by different publishers, are often indistinguishable..."

The mathematics textbook market in the U.S. is vast, and a number of factors inhibit change in the content and organization of textbooks. These factors include the absence of a national curriculum so every state and/or district develops its own curriculum framework. In addition, most districts adopt new mathematics textbooks within a five- to seven-year cycle, but there is no single time (month or year) when all schools are adopting mathematics textbooks. The availability of technology, including calculators and computers, varies greatly so curriculum developers can't assume the existence of a basic core of technology across all schools. Finally, the serious shortage of certified mathematics teachers and a lack of deep mathematical knowledge among many who do teach, limit the types of mathematics curricula that can be developed, used and marketed.

Together, these factors translate into a need for textbook publishers, who must be commercially successful, to produce materials that are available continuously, marketable in states with vastly different frameworks and useable by teachers with a wide range of mathematical knowledge. These conditions severely restrict the development of research-based curriculum products. They also help explain why mathematics textbooks, even though developed by different publishers, are often indistinguishable. The cost of developing and marketing completely new mathematics programs is very high. Rather than create materials that are significantly different from the current best seller, the typical publisher examines the best sellers and emulates their strongest features. While this approach is safe, it limits significant change and ignores what children need.

Recognizing that publishers are reluctant to drastically change the content and instructional approach of mathematics

textbooks, the National Science Foundation (NSF) supported curriculum development projects in an effort to produce programs that reflect the vision of the National Council of Teachers of Mathematics (NCTM) standards.

The mathematics curricula developed with NSF funds have served as a focal point for much of the recent debate about approaches to improve school mathematics. One major concern is whether standards-based mathematics curricula are being used in schools without adequate pilot testing and refinement. This is a legitimate concern. In other fields untested products would never be released for public use. For example, pharmaceutical companies must follow rigorous research procedures that include animal testing and documenting potential side effects before testing on humans can even begin. Then additional documentation on the human tests is required before permission is granted to make a product commercially available. Even with these testing procedures, the long-term consequences of a drug may not be known for many years.

But "testing of textbooks" is very different from "testing of drugs." With drugs, the independent variable (the drug being tested) can be carefully controlled, while the dependent variables are monitored closely. With mathematics textbooks, the dependent variable is student learning, and the independent variable is the mathematics curriculum. With textbooks it is not possible to place tight controls on use of curriculum materials because the teacher, the students, school contexts, and much more play critical roles in implementing the intended program. Therefore the treatment is immediately confounded by variables that cannot be tightly controlled.

With drugs, effectiveness is more easily agreed upon than with educational programs. If a drug cures its intended ailment without undue negative side effects, it can be agreed that it is effective. However, with mathematics curriculum materials, determining what is effective depends on the

evidence one values. Some people place the highest priority on skill development, so any evidence of improved skill is judged positively. Others value understanding mathematical concepts, while still others may view problem solving as most important. While these goals are not mutually exclusive, obtaining valid and reliable evidence to support them all is very difficult.

It has been suggested that standards-based curriculum materials don't have a research base. Clearly, much research remains to be done and reported. However, the statement implies that traditional programs, which still make up the overwhelming majority of programs in use, have a sterling record of success in promoting mathematics learning. It ignores decades of poor performance documented by the National Assessment of Educational Progress (NAEP) and by three international assessments. The lack of knowledge and understanding of mathematics documented by these assessments is the by-product of mathematics programs that were in place long before standards-based mathematics curricula existed.

In arguing against the use of standards-based NSF-supported curricula, some

have alleged that children are used as guinea pigs for untried programs. This argument has strong emotional appeal. Who wants a child to be used as a guinea pig? Critics have advocated "stricter controls to prevent schools from using untested programs without the informed consent of parents and students." This claim is ironic on at least two counts. First, the traditional mathematics curriculum supported by the critics has not been tested for effectiveness, unless international assessments are used as the measure, in which case these curricula fall far short. Second, there has been unprecedented field-testing of standards-based materials. Data continue to be systematically collected, and feedback from the field is reflected in later editions. To suggest that they have not been extensively field-tested with teachers and students is blatantly untrue.

Despite the difficulties in designing, testing, and marketing new mathematics curricula, the need for significant improvement in student learning requires us to overcome these difficulties. All interested parties should stop trying to defend the past and work together to improve children's mathematics education for the future.

Have you read....

An article published in the July 2001 issue of the *Journal for Research in Mathematics Education* provides evidence of the impact of standards-based curriculum on student achievement.

Riordin & Noyce (2001) compared scores on the state-mandated assessment of mathematics of students from two groups of schools. One group included students from every school in Massachusetts that had used a standards-based curriculum in the 4th or 8th grade for at least two years. The other group included students from Massachusetts schools carefully selected to match the first group on two important predictors of achievement - prior

achievement and socio-economic status.

Results indicate that students using standards-based curriculum materials as their primary text performed significantly better on the state-mandated mathematics assessment than did students in schools using traditional textbooks. The differences were consistent across various content strands, assessment problem types, and student sub-populations. Additionally, in schools that had used the materials for longer periods of time (at least 4 years) gains were more dramatic.

Riordin, J. E., & Noyce, P. E. (2001). The impact of two standards-based mathematics curricula on student achievement in Massachusetts. Journal for Research in Mathematics Education, 31(4), 368-398.



PHONE:
(573) 882-2099

FAX:
(573) 882-4481

E-MAIL:
center@showme.
missouri.edu

We're on the Web!

See us at:
[www.showmecenter.
missouri.edu](http://www.showmecenter.missouri.edu)

New Resources Available

Show-Me Brief on Research

Show-Me Project staff have developed a summary of research related to standards-based middle grades mathematics curriculum implementation. This five-page summary includes a bibliography of studies conducted and published on the topic.

The direct URL is:

<http://showmecenter.missouri.edu/resources/index.shtml>

Curriculum Summaries

The K-12 Mathematics Curriculum Center (K-12 MCC) at EDC has released a new edition of its popular *Curriculum Summaries*.

The document includes information related to 13 programs funded by the National Science Foundation. The summaries may be viewed online at the K-12 MCC website: <http://www.edc.org/mcc/material.htm> or downloaded for printing.

Guiding Curriculum Decision for Middle-Grades Mathematics

Heinemann Publishing Company has released a new resource to help guide curriculum selection. Drawing on the expertise of the authors as well as interviews with dozens of practitioners, *Guiding Curriculum Decision for Middle-Grades Mathematics* presents a framework for decision-making process, and contains detailed information on a variety of mathematics curricula and curriculum resources. See the Heinemann web site for details.

New Resources for School Mathematics

This brochure provides a summary of standards-based mathematics curriculum materials (K-12) currently available to schools. For copies, send a request to: arccenter@mail.comap.com

The Show-Me Center

121 Townsend Hall
UNIVERSITY OF MISSOURI-COLUMBIA
Columbia, MO 65211