



Show-Me Center

NEWSLETTER

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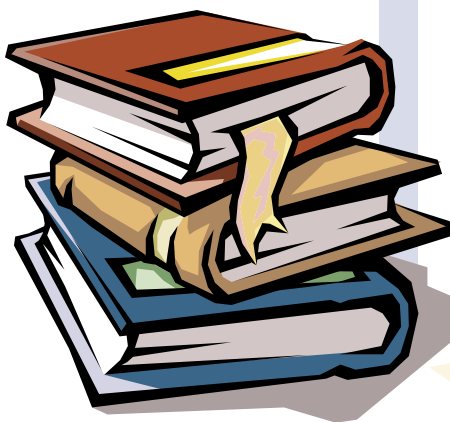
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The Impact of Textbooks: The Search for Evidence

“How do NSF supported middle school mathematics curricula impact student learning of mathematics?” This question or a paraphrase of it represents the most frequently asked question of the Show-Me Center.

It is a very important question, but as with most important questions, it has no easy or simple answer. The question takes on additional significance as the attention given to mandated state assessments continues to increase. The federal No Child Left Behind requirements places increased attention and importance on learning how any curriculum impacts student learning of mathematics.

Research evidence takes many forms, and classroom teachers are key players in the generation of research evidence. Each school, indeed each teacher, using a mathematics curriculum has a research story to tell. However, the story about the mathematics curriculum and its impact on student performance would be incomplete without acknowledging other critical factors that influence learning. In addition to the textbook, many other factors influence student learning, including teachers' beliefs and practices, teachers' mathematical knowledge, the professional development that accompanies the adoption of the textbook, the extent to which the curriculum materials are used, the way in which the mathematics curriculum is enacted, the amount of time scheduled for mathematics classes, and the focus of the instru-

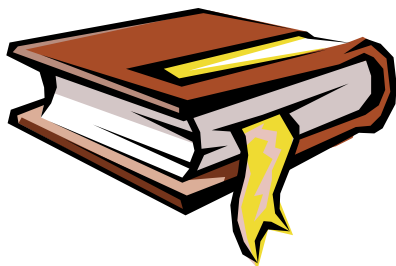
ments used to measure mathematical performance.

Although studying the impact of mathematics curricula is difficult, many investigations have been reported and others are underway. The Show Me Project Brief provides a summary of research evidence and is available at the 'Resources' button on the Show-Me website (showmecenter.missouri.edu). The Brief summarizes research studies that have been reported in peer-reviewed journals.. Many of these publications are available in the "Publications" feature of the website. You will also find a summary of doctoral dissertations that have investigated different aspects of student learning of mathematics. If you are looking for personal reflections on using these curricula along with some school data provided by curriculum users, check the 'Sites and Stories' button at the Show-Me website. An examination of any of these sources will confirm that each has a story to tell—and each describes a unique situation.

There are several other studies currently in progress that will be reported in the near future. In fact, the Show-Me Center conducted a national Researchers' Workshop in May 2003 in an effort to stimulate research related to mathematics curricula and expand the network of researchers (see report of conference elsewhere in this Newsletter). The National

continued on page 2

The Impact of Textbooks cont. from page 1



Council of Teachers of Mathematics convened a Research Catalyst Conference in September 2003 to focus on investigating the influence of national standards. Two other major activities related to the issue of evidence are underway. One soon to be released report is from the specially appointed committee by the National Research Council. This committee is charged with reviewing evaluation data on the effectiveness of NSF-supported and commercially generated mathematics curriculum materials. The committee's report is due in the spring of 2004. Information about the work of this committee can be found at http://www7.nationalacademies.org/mseb/Current_Projects.html. In addition,

the U.S. Department of Education has established the "What Works Clearinghouse" to provide a reliable source for research evidence. An initial focus will be directed toward "Curriculum-based Interventions for Increasing K-12 Mathematics Achievement." You can learn more about the project and monitor its progress at <http://www.w-w-c.org>.

While the question of "What works best?" is unanswerable in such a general form, it is important to learn all we can about more focused questions, such as "What works best with whom under what conditions?" The sources mentioned here provide potential starting points in your own search for evidence!



News From the CMP Curriculum Center

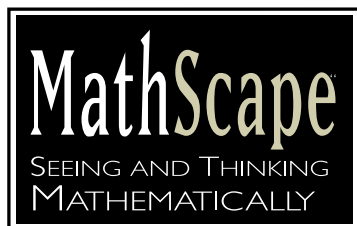
The CMP Web site is updated regularly with announcements, new information, and features. For example, a pdf file of a talk given by Mary Bouck at the 6th Annual CMP Users' Conference titled, "Reading in the Content Area: A discussion of the reading in CMP and strategies for helping students with content area reading" is available on the website.

In addition, the website contains information about the 7th Annual CMP Users' Conference to be held Feb. 20-21, 2004 at Michigan State University as well as conferences to be offered during the summer of 2004. You'll also find a revised version of the *CMP Research and Evaluation Summary* (updated in 2003). Find these items and more at: www.math.msu.edu/cmp.

News from the MathScape Curriculum Center

Glencoe-McGraw Hill plans to release the revised edition of MathScape in the spring of 2004. New workshops and an *Implementation Guide* will support the new edition. A series of videotapes is being developed in response to requests from teachers to see other teachers in action in order to learn from their practice. The videotapes will focus on

facilitating investigations and classroom discourse in order to promote deep mathematical understanding. We are also involved in a research project to learn about the impact of MathScape on student achievement in mathematics. To learn more, contact Emily Fagen at: EFagen@edc.org.



News from the *Mathematics in Context* Curriculum Center

Many teachers of *Mathematics in Context* tell us they have deepened their own understanding of mathematics as a result of using MiC to teach their students. Building on the idea of MiC for teachers, we are creating professional development modules focused on the development of mathematical concepts in MiC. The goal of *MiC Courseware* is to support the development of teacher

knowledge of mathematics, mathematical tools, and student strategies. The first module focuses on the concept of linearity across the units of the algebra strand. It is intended for use by teacher leaders or staff developers working with teachers in a variety of settings.

For further information on *MiC Courseware*, contact Meg Meyer at: **mrmeyer2@wisc.edu**.



News from the *MATHThematics* Center

MATHThematics developers continue to work with the publisher, McDougal Littell, to develop new products such as *Middle Grades MATHThematics Curriculum Overview and Program Effectiveness*. Also new are Student *MATHThematics* Workbooks for each grade level that contains lab sheets, practice and applications, and a study

guide. These can be purchased for each student so copying is no longer necessary. Also available are a new Multi-language Visual Glossary, Interactive Transparencies, Personal Student Tutor (on CD), and Test and Practice Generator. To learn more, contact Rick Billstein at: **rickb@mso.umt.edu**.



<p>Connected Mathematics Project Gr. 6-8</p>	<p>Betty Phillips A717 Wells Hall Michigan State University East Lansing, MI 48824 (517) 432-2870 cmp@math.msu.edu http://www.math.msu.edu/cmp</p>	<p>Prentice-Hall http://phschool.com/math/cmp</p>
<p>Mathematics in Context Gr. 5-8</p>	<p>Meg Meyer University of Wisconsin – Madison 575K Educational Sciences Bldg. Madison, WI 53706 (608) 263-1798 mrmeyer2@facstaff.wisc.edu</p>	<p>Holt Rinehart & Winston http://www.hrw.com</p>
<p><i>MATHThematics</i> Gr. 6-8</p>	<p>Rick Billstein Mathematics Department University of Montana Missoula, MT 59812 rickb@mso.umt.edu http://www.math.umt.edu/~stem</p>	<p>McDougal Littell http://classzone.com/maththem/</p>
<p>MathScape Gr. 6-8</p>	<p>Emily Fagan Education Development Center 55 Chapel Street Newton, MA 02458 (617) 969-7100 x3519 mathscape@edc.org http://www2.edc.org/MathscapeSTM</p>	<p>Glencoe McGraw-Hill http://www.math.glencoe.com/</p>

Choosing good Mathematics Textbooks

Not all textbooks are alike. What are the critical features of good mathematics textbooks? See below a set of criteria to consider as you review mathematics textbooks. These criteria are organized around four key areas: mathematics content emphasis, instructional focus, teacher support, and organization of the materials.

Mathematics content emphasis

- The mathematics addressed is consistent with the learning expectations presented in NCTM's *Principles and Standards for School Mathematics*.
- The mathematics emphasizes an appropriate balance of skill development, conceptual understanding, and mathematical processes.
- Mathematical ideas are connected and interwoven across strands rather than studied in isolation.
- Mathematical topics are presented in appropriate depth and built on in subsequent grades to develop mathematical sophistication of the topic over time.
- Contextual problems appropriate for and engaging to students are utilized, where appropriate, to give rise to the mathematical ideas.

Instructional focus

- Activities foster the development of a mathematical disposition (mathematics as a way of thinking).
- A central feature of the instructional focus is on building conceptual understanding.
- Lessons promote classroom dialogue and communication about student thinking.
- Lessons utilize worthwhile mathematical tasks and problems that can be modified to engage, motivate, and challenge students at varying levels to think mathematically.
- Where appropriate, lessons involve use of instructional technology, manipulatives, and other tools/models to visualize complex concepts, acquire and analyze information, and communicate solutions.
- Activities promote student engagement in inquiry-based learning, reflection, critical thinking, problem solving, sense-making.
- Materials maintain high expectations for all students.

Teacher support

- Materials provide tools for assessing student learning that can be used in formal and informal assessment settings to gauge and to guide and enhance student learning.
- Materials provide opportunities for teachers to increase their own understanding of the mathematical ideas students are studying.
- Materials suggest ways to adapt instructional activities for special needs students.
- Materials provide information to teachers regarding what students might already know about the mathematical ideas in the unit, including common misconceptions.
- Materials provide a rich source of problems, exercises, and projects that can be used for homework.

Organization/Presentation

- Materials organized in a way so that students have sufficient time to study in-depth all of the important mathematical ideas in the curriculum framework.
- Mathematical ideas/concepts build across subsequent years so that more depth of understanding is expected.
- Materials provide useful and necessary diagrams, charts, data sets, models to help students conceptualize mathematical ideas.



Activity Showcase

The following activity is part of the grade 6 module “Mind Games,” from the *MATH Thematics* curriculum. In this module, students explore number theory, algebra, probability, fraction, and decimal concepts by playing and analyzing strategy games. The exploration below is from the 1st section of the module, “Outcomes in Games.” Try it with your students or colleagues. Prior to this lesson, students have worked with sample spaces, identified equally likely outcomes, and determined experimental probabilities. During this exploration, students look at the meaning of experimental and theoretical probability in the context of a game with dice.

Exploration 2
Theoretical Probability

GOAL
 LEARN HOW TO...
 • find theoretical probabilities
 • identify impossible and certain events
 • plot probabilities on a number line

SET UP Work with a partner. You will need: • Labsheet 1A
 • die or numbered cube

The object of the game **Never a Six** is to be the first player to score a total of 50 or more points.

Never a Six

- Players alternate turns.
- On your turn, roll the die. If the result is not a 6, record the number rolled. This is your point score for that roll.
- If you roll a 6, your turn is over. Any points rolled during the turn cannot be added to your total score.
- You may continue to roll the die and record points until you decide to stop or until you roll a 6.
- If you decide to stop, total the points you rolled during your turn and add them to your total score.

Use Labsheet 1A for Questions 15 and 16.

15 With a partner, play one game of **Never a Six**. Record in the table your rolls and the resulting score for each turn.

16 a. List all the possible outcomes for a single roll of a die.
 b. Look at the numbers you rolled during the game of **Never a Six**. Do all the numbers seem to have an equal chance of occurring? Explain.

Section 1 Probability 130

► An **event** is a set of outcomes for a particular experiment, for example, in **Never a Six** the outcomes a roll of 4 and a roll of 5 make up the event scoring more than 3 points on a single roll.

Event = set of outcomes
 scoring more than 3 points on a roll in **Never a Six**

17 List the outcomes of a single roll of a die that make up each event in the game **Never a Six**.

- scoring less than 3 points
- scoring an odd number of points
- scoring 6, 1, 2, 3, 4, or 5 points
- scoring 8 points
- scoring 6 points

18 Use Labsheet 1A. Find the experimental probability of the event scoring more than 3 points on the first roll of a turn.

► When you find the probability of an event without doing an experiment, it is called a **theoretical probability**. You can find theoretical probability when the outcomes are equally likely, such as when you are using a spinner with equal-sized parts.

Theoretical probability of an event = $\frac{\text{number of outcomes in the event}}{\text{total number of possible outcomes}}$

EXAMPLE
 What is the theoretical probability that the spinner stops on an odd number?

SAMPLE RESPONSE

Theoretical probability of an odd number = $\frac{\text{number of odd outcomes}}{\text{total number of possible outcomes}} = \frac{3}{4}$

odd outcomes: 1, 3, 5
 all possible outcomes: 1, 2, 3, or 4

Module 4 Mind Games

If you'd like to see more of this activity, check out the Show-Me Web site, Curriculum Showcase at:
<http://showmecenter.missouri.edu/showme/lesson/main.shtml>

“What do good textbooks do for us? They compact and synthesize immense bodies of knowledge. They simplify and condense the story. They organize and translate complex disciplines. They provide teachers and students with a clear path, a learning TRIP TIK, if you will.”

Jamie McKenzie www.fno.org/may97/defense.html



A N N O U N C I N G

CURRICULUM SHOWCASE

Connected Mathematics Project

Mathematics in Context

Math Thematics

MathScape

Nashville, Tennessee
Embassy Suites Hotel
May 6-7, 2004

This conference is intended for mathematics supervisors and teacher leaders who are interested in learning about high quality middle grade mathematics curriculum materials. Space is limited to 250 registrants, accepted on a first-come, first-served basis.

Questions? Contact the Show-me staff by e-mail: showmecenter@missouri.edu
or by phone: **573-884-2099**

To register, see:

<http://showmecenter.missouri.edu/2004conference/>

Or use the registration form on the reverse side of this page.

**Show-Me Conference 2004 Registration
Middle Grade Mathematics Curriculum Showcase
May 6-7, 2004 Nashville, TN
Embassy Suites Hotel**

The conference is limited to 250 participants. Registrations will be accepted on a first-come, first-served basis. The conference will include sessions introducing four NSF-funded standards-based middle grades mathematics textbooks series. It will also include general curriculum implementation sessions on topics such as assessment, technology, and teacher preparation.

Registrations are due by **MARCH 1, 2004**. Confirmation of registration will be sent upon receipt of completed registration form and fee. Additional information regarding the conference will be sent to registrants by March 15. A draft conference program is available at: <http://showmecenter.missouri.edu/2004conference>

First name: _____ M.I. _____ Last name: _____

Position/Job: _____

School/Agency/Institution: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Fax: _____

E-Mail: _____

Please respond to the following question: I would like to attend this conference because . . .

Conference participants are responsible for lodging and travel. A registration fee of \$100 (to cover conference materials and meals) must accompany this application. It will be returned if applicant is NOT accepted due to over-subscription.

Please complete and return completed form ALONG WITH a check for \$100 (made out to the University of Missouri) ASAP to the address below. Registration fee is non-refundable after March 1. Confirmation will be sent upon receipt of registration.

Copy, fill out and send this form to the address below. The registration form can be faxed to: (573) 882-4481.

**2004 Show-Me Conference
303 Townsend Hall
University of Missouri
Columbia, MO 65211**



First Annual Show-Me Researchers' Workshop Yields Professional Networks

The *Show-Me Researchers' Workshop: Investigating the Impact of Standards-based Middle School Mathematics Curricula* was held at the University of Missouri – Columbia, May 18-21, 2003. The purpose of the workshop was to stimulate research on the impact of standards-based curricular materials on students and teachers. The audience was comprised of young researchers (doctoral students and junior faculty) in mathematics education or educational policy. In all, 55 participants and speakers representing 23 different US states, plus the District of Columbia, Canada and the Netherlands attended this event. They represented 27 different universities, 1 state department of education, the National Science Foundation, and the American Association for the Advancement of Science.

Edward Silver (University of Michigan) provided the opening plenary talk, "Asking Hard Questions and Questioning Easy Answers." Numerous sessions highlighted current research on the impact of standards-based middle school mathematics curricula on student learning and on teachers with particular attention paid to research

design methodologies and "lessons learned" from conducting curriculum research. Additional sessions addressed funding sources for educational research and implications of the What Works Clearinghouse Design and Implementation Assessment Device (DIAD) under development for the U.S. Department of Education. In addition to Edward Silver, two other prominent members of the mathematics education research community served as mentors for the workshop, Doug Grouws (University of Iowa) and Judy Sowder (San Diego State University). Mentors offered panel discussions of research presented, worked with small groups of young researchers, and delivered keynote addresses entitled "Challenges and Considerations in Conducting Curriculum Evaluation Research" and "Taking the Next Steps."

Small-group work sessions based on research interests of participants led to the establishment of networks to support collaboration and continued exchanges.

The Show-Me Project will organize and sponsor a second Show-Me Researchers' Workshop in May 2004 (see more information on page 9).



Robert Reys, Edward Silver, Doug Grouws, and Judy Sowder lead a discussion of issues related to research on the impact of standards-based curricula on students and teachers at the *Show-Me Researchers' Workshop* in May, 2003.

Tri-State Student Achievement Study

In 2000–2001, the ARC Center (NSF-funded elementary mathematics curriculum center) carried out a study of reform mathematics programs in elementary schools in Illinois, Massachusetts, and Washington. The study examined the performance of students using three elementary mathematics curricula—*Everyday Mathematics*; *Math Trailblazers*; and *Investigations in Number, Data, and Space*—on state-mandated standardized tests administered in spring 2000. The study included over 100,000 students, 51,340 students who had studied one of the three reform curricula for at least two years and 49,535 students from non-using comparison schools matched by reading level, socioeconomic status, and other variables. Small differences on the SES variables remaining between the reform schools and the matched compari-

son schools were further controlled by adjustments based on regression analyses. Usage of the reform curricula was verified by a telephone survey of schools and districts.

Results show that the average mathematics scores of students in the reform schools are significantly higher than the average scores of students in their matched comparison schools. The results hold across five different state-mandated tests, and across topics ranging from computation, measurement, geometry, and algebra to problem solving and making connections. The study compared the scores on all the topics tested at all the grade levels tested (grades 3–5) in each of the three states. Of 34 comparisons across five state-grade combinations, 28 favor the reform students, six show no statistically significant difference, and none favor the comparison

students. The results also hold across all income and racial/ethnic subgroups, except for Hispanic students, where there are no significant differences between the scores.

The full report of the Tri-State Student Achievement Study discusses the rationale, methodology, and results of a large scale examination of the performance of students using *Everyday Mathematics*; *Math Trailblazers*; and *Investigations in Number, Data, and Space*.

This 44-page report complements the **Executive Summary** that is available online. Copies of the Tri-State Student Achievement Study are available from COMAP, Inc., for \$15. An **order form** is available, or call 800-772-6627.

<http://www.comap.com/elementary/projects/arc/>

Second Annual Show-Me Researchers' Workshop: Curriculum as a Channel of Influence

The Show-Me Center will host the *Second Annual Show-Me Researchers' Workshop* on the campus of the University of Missouri - Columbia, May 17-20, 2004. The purpose of the workshop is to:

- Introduce advanced doctoral students and faculty to current research related to the influence of standards-based mathematics curriculum materials.
- Share methodologies, instruments and findings related to the impact of standards-based curricula on policy, teachers, teaching, and student learning.
- Encourage and support new and established researchers to design and undertake studies that address the impact of standards-based curricula on policy, teachers, teaching, and learning.

The primary audience for this workshop is young researchers who are interested in conducting research related to mathematics curricula as a channel of influence on policy, teachers, teaching, and student learning. Up to \$500 in financial support for travel and lodging is available from the Show-Me Center, and participation is limited to 40 people. For further information contact: James E. Tarr, The Show-Me Project 121 Townsend Hall – University of Missouri Columbia, MO 65211-2400 E-Mail: tarrj@missouri.edu Phone: 573-882-2209. An application form is available at: <http://showmecenter.missouri.edu/researchersworkshop>. **Applications are due March 20.**

Why Do I Need to Know This?



If this is the first time you have ever encountered this question, then you are probably not an n th-grade Mathematics teacher, where n is a natural number greater than or equal to 5. A frequent teacher response to this ubiquitous question is: You will need to know this for grade $n + m$, where m is some natural number. Most students reluctantly accept this answer, although they find it less than satisfactory.

A week before an exam, when stu-

dents are studying hard and nerves are frazzled, is usually when the famous question echoes throughout college classrooms. Pre-service middle and secondary mathematics teachers often paraphrase the question in more pragmatic terms — how does the college level mathematics that we are learning connect to the school mathematics that we will someday be teaching? Not only is this a legitimate question, but it is one that deserves a serious response.

A group of mathematicians and mathematics educators at the University of Missouri are addressing this important question in the three-year National Science Foundation project, *Connecting Middle School and College Mathematics*. They are developing special mathematics courses and

complementary support modules that concentrate on algebra, geometry, data analysis and probability, and the mathematics of change (calculus), and that utilize standard-based middle grade curricular materials as focal points of study. The goal of these courses and materials is to provide a strong mathematical foundation for prospective middle school mathematics teachers and to directly connect the mathematics they are learning with the mathematics they will be teaching.

The four individual modules will be published by Prentice Hall in 2005, and pilot sites are currently being established in colleges and universities across the nation. For more information on this project, see: www.teachmathmissouri.org.

Show-Me Website

The Show-Me Web site provides information about standards-based middle grades curriculum materials including samples of the materials, opportunities for professional development related to the materials, and published articles about the use of the materials.

A set of “Frequently Asked Questions” and responses prepared by the Show-Me staff can be found under the “FAQ” feature on the home page.

<http://showmecenter.missouri.edu>

Sample questions:

- What is meant by “standards-based curriculum”?**
- How are these materials different from other curricula?**
- Do students using these materials perform better on achievement tests?**
- What standards-based curricula are available for elementary and secondary schools?**
- Where can I find out about professional development opportunities/workshops/conferences in my area related to these curricula?**



Looking Inside the Classroom: A Study of K-12 Mathematics and Science Education in the United States

Iris R. Weiss, Joan D. Pasley, P. Sean Smith, Eric R. Banilower, Daniel J. Heck May 2003

This report, intended for the education research and policy communities, provides snapshots of mathematics and science education as they exist in classrooms in a variety of contexts in the United States. The report details findings from observations of and interviews with 364 science and mathematics teachers in schools across the United States. Findings include:

- ★ The majority of lessons observed incorporate content that is significant and worthwhile and have teachers who seem confident in their ability to teach mathematics and science and who provide accurate content information.
- ★ Fewer than 1 in 5 lessons are strong in intellectual rigor,

include teacher questioning that is likely to enhance student conceptual understanding, and provide sense-making appropriate for the needs of the students and the purposes of the lesson.

- ★ Overall, 59 percent of mathematics/science lessons are judged to be low in quality, 27 percent medium in quality, and 15 percent high in quality. Lessons that are judged to be high in quality share a number of key elements including having important learning goals and providing opportunities for students to grapple with content in meaningful ways.

In general, the study reported there does not appear to be a single right way to engage students with mathematics/science content. Giving students experience with phenomena, making real-world con-

nections, playing games that focus on important learning goals, and using contrived contexts to motivate the learners are all used effectively. However, the culture of the classroom appears to be important. Lessons that are judged to be of high quality have learning environments that are respectful of and challenging to students. Teachers in these classes make sure that students are intellectually engaged with the mathematics/science content and monitor student understanding. Teachers of lessons that are judged to be of high quality help students make sense of the concepts being addressed, rather than assuming that students will forge that understanding on their own.

The full report as well as a summary is available at:
<http://www.horizon-research.com/insidetheclassroom/reports/looking/>

Have You Read . . .

Investigating the Influence of Standards: A Framework for Research in Mathematics, Science, and Technology Education

Iris R. Weiss, Michael S. Knapp, Karen S. Hollweg, and Gail Burrill, Editors, Center for Education, National Research Council

Since 1989, with the publication of *Curriculum and Evaluation Standards for Mathematics* by the National Council of Teachers of Mathematics, standards have been at the forefront of the education reform movement in the United States. The mathematics standards, which were revised in 2000, have been joined

by standards in many subjects, including the National Research Council's *National Science Education Standards* published in 1996 and the Standards for Technical Literacy issued by the International Technology Education Association in 2000.

There is no doubt that standards have begun to influence the education system. The question remains, however, what the nature of that influence is and, most importantly, whether standards truly improve student learning. To answer those questions, one must begin to examine the ways in which components of

the system have been influenced by the standards.

Investigating the Influence of Standards provides a framework to guide the design, conduct, and interpretation of research regarding the influences of nationally promulgated standards in mathematics, science, and technology education on student learning. Researchers and consumers of research such as teachers, teacher educators, and administrators will find the framework useful as they work toward developing an understanding of the influence of standards.
<http://www.nap.edu/catalog/10023.html>



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We're on the web:

[http://showmecer.
missouri.edu](http://showmecer.
missouri.edu)

Upcoming Show-Me Sponsored Events

Teacher Educator Workshop — Jan. 22, 2004

This one-day conference will focus on mathematics content preparation of middle school mathematics teachers. It will be held as a pre-conference to the AMTE annual meeting in San Diego. The conference is co-sponsored by the NSF Connecting Middle and College Mathematics Project.

Middle Grades Mathematics Curriculum Showcase May 6-7, 2004

This two-day conference will showcase standards-based middle grades mathematics curriculum materials (*Connected Mathematics Project*, *Mathematics in Context*, *Math Themes*, and *MathScape*). In addition to curriculum sessions other breakout sessions that focus on selecting and implementing good curriculum materials will be included in the conference agenda. The conference will be held in Nashville, TN (Embassy Suites Hotel) on May 6-7, 2004. See pp 6-7 for more information.

Researchers' Workshop May 17-20, 2004

This three-day conference will provide opportunities for researchers to discuss questions, methodologies, instruments for investigating the influence of curriculum materials on teaching, teacher learning, and student learning. It will be held on the University of Missouri campus in Columbia, MO. See p. 9 for more information.

For more information about these events, see the "Conferences" schedule at <http://showmecer.missouri.edu>