

what works clearinghouse math

What Works Clearinghouse Math: A Guide to Evidence-Based Instructional Practices

what works clearinghouse math is an essential resource for educators, administrators, and policymakers striving to improve math instruction through evidence-based strategies. As the demand for effective teaching methods grows, understanding how to navigate and utilize the What Works Clearinghouse (WWC) in the context of math education becomes increasingly valuable. This article explores what the What Works Clearinghouse offers specifically for math, how it evaluates instructional programs, and practical tips for integrating its findings into classrooms to enhance student learning.

Understanding What Works Clearinghouse Math

The What Works Clearinghouse, established by the U.S. Department of Education's Institute of Education Sciences (IES), serves as a comprehensive database of research on educational interventions. When it comes to math, the WWC reviews studies on curricula, teaching practices, and interventions to determine which approaches have demonstrated effectiveness. This rigorous review process helps educators identify programs and strategies backed by solid evidence, enabling informed decisions that can improve student outcomes in mathematics.

Unlike traditional reviews or opinion-based recommendations, the WWC uses stringent criteria to evaluate research quality. They assess study design, sample size, and implementation fidelity, among other factors, to rate the strength of evidence supporting each math program or practice. This methodical approach ensures that the resources flagged by WWC math are not only promising but genuinely impactful.

How What Works Clearinghouse Evaluates Math Programs

To appreciate the value of the WWC in math education, it's important to understand its evaluation process. This process involves several steps designed to sift through vast amounts of research and highlight only the most reliable findings.

Study Screening and Selection

The WWC begins by identifying studies relevant to math education—these can range from early numeracy interventions to advanced algebra instruction. Each study undergoes a screening process to ensure relevance and adherence to research standards.

Quality Assessment

Next, studies are assessed for methodological rigor. Randomized controlled trials (RCTs) and well-designed quasi-experimental designs are preferred. Factors like sample size, attrition rates, and how outcomes were measured influence whether a study passes this stage.

Rating Evidence Strength

After quality assessment, the WWC assigns ratings such as "Meets Evidence Standards," "Meets Evidence Standards with Reservations," or "Does Not Meet Evidence Standards." These ratings help educators quickly gauge the reliability of a particular math program or intervention.

Report and Intervention Reviews

The WWC provides detailed reports summarizing findings and offering clear guidance on each intervention's effectiveness. These reports often include practical considerations, such as grade levels served, implementation requirements, and cost.

Popular Math Interventions and Programs Reviewed by WWC

Many widely used math programs have undergone evaluation by the What Works Clearinghouse, offering educators a trusted source for comparing options. Some notable examples include:

- **Number Worlds:** An intervention designed for students struggling with foundational math skills, especially in early grades.
- **Math Recovery:** A program targeting primary grade students with difficulties in number sense and problem-solving.
- **Do the Math:** Focused on improving computation and problem-solving skills in middle school students.
- **Accelerated Math:** A technology-based program that promotes individualized learning paths based on student progress.

Each of these programs has been analyzed for its impact on student math achievement, with the WWC providing objective data to help educators choose initiatives aligned with

their goals.

Using What Works Clearinghouse Math Data to Inform Instruction

One of the main benefits of WWC math reviews is their practical application in classroom settings. Educators can leverage WWC findings in several ways to enhance math instruction.

Selecting Evidence-Based Curriculum Materials

Schools and districts often face the challenge of choosing among numerous math curricula. By consulting WWC math reports, decision-makers can identify programs with proven effectiveness rather than relying solely on marketing claims or anecdotal evidence.

Implementing Targeted Interventions

WWC math evaluations also highlight interventions tailored for students with specific needs, such as those struggling with computation or conceptual understanding. Teachers can incorporate these targeted approaches to address learning gaps more efficiently.

Guiding Professional Development

The WWC offers insights into instructional practices that support math learning. Educators can use this information to design professional development sessions that emphasize strategies with a strong evidence base, such as explicit instruction, formative assessment, or use of manipulatives.

Monitoring and Adjusting Instruction

By understanding which interventions have demonstrated success, teachers can more confidently monitor student progress and make data-driven adjustments to instruction. This cyclical approach promotes continuous improvement in math outcomes.

Challenges and Considerations When Using What Works Clearinghouse Math

While the WWC is a valuable tool, users should be mindful of certain limitations and

contextual factors when applying its findings.

Contextual Differences in Implementation

The success of a math intervention can depend heavily on the context in which it is implemented. Factors like class size, teacher expertise, student demographics, and resources available can influence results. Educators should consider these when interpreting WWC reports.

Updating and Evolving Research

Educational research is always evolving, and new studies may emerge that provide additional evidence or challenge previous findings. The WWC regularly updates its reviews, but users should stay current by checking for the latest reports.

Balancing Rigor and Practicality

Some highly rigorous studies may exclude certain populations or settings, limiting the generalizability of findings. Educators should balance the rigor of research with practical considerations and local needs.

Tips for Navigating What Works Clearinghouse Math Resources

To maximize the benefits of WWC math resources, consider these helpful strategies:

1. **Start with Clear Goals:** Define what you want to achieve in math instruction—whether improving early numeracy, boosting problem-solving skills, or supporting struggling learners.
2. **Use Filters Effectively:** The WWC website allows filtering by grade level, intervention type, and outcome measures, helping you quickly find relevant information.
3. **Review Both Summary and Full Reports:** Summaries provide quick insights, but full reports offer comprehensive details about study design and context.
4. **Combine WWC Findings with Local Data:** Use assessment data and teacher feedback to tailor interventions to your specific student population.
5. **Engage Stakeholders:** Share WWC findings with teachers, parents, and

administrators to build support for evidence-based math initiatives.

The Broader Impact of What Works Clearinghouse on Math Education

By promoting transparency and rigor in educational research, the What Works Clearinghouse has significantly influenced how math instruction is approached in schools. Its commitment to highlighting evidence-based practices helps bridge the gap between research and classroom application, fostering more effective teaching and improved student achievement.

Moreover, the WWC has encouraged developers of math programs to pursue rigorous evaluations, raising the overall quality of instructional materials available. This shift benefits not only educators but also students who receive instruction grounded in proven methods.

In an era where educational resources are abundant but not always trustworthy, the What Works Clearinghouse serves as a beacon of clarity. For math educators, understanding and utilizing WWC math resources is an important step toward fostering a learning environment where students can thrive and develop strong mathematical skills that serve them for a lifetime.

Frequently Asked Questions

What is the What Works Clearinghouse (WWC) in math education?

The What Works Clearinghouse (WWC) is an initiative by the U.S. Department of Education that reviews and summarizes research on the effectiveness of educational programs, including those focused on math, to help educators make evidence-based decisions.

How does the WWC evaluate math interventions?

WWC evaluates math interventions by systematically reviewing existing research studies, assessing their methodological quality, and summarizing the evidence of effectiveness based on rigorous standards and criteria.

Why is the WWC important for math teachers and schools?

The WWC provides teachers and schools with reliable, research-based information about which math programs and practices have been proven to improve student outcomes, enabling them to select effective instructional strategies.

Can the WWC help in choosing math curricula?

Yes, the WWC offers reviews and practice guides that can help educators compare different math curricula and choose those that have demonstrated positive impacts on student learning.

Where can I access WWC reports on math programs?

WWC reports on math programs can be accessed for free on the official What Works Clearinghouse website, which offers searchable databases and downloadable reports.

Does the WWC cover all grade levels in math education?

The WWC covers math interventions and programs across various grade levels, from early childhood through high school, providing evidence-based information tailored to different age groups and educational needs.

Additional Resources

What Works Clearinghouse Math: An In-Depth Analysis of Educational Evidence and Resources

what works clearinghouse math is a term that often emerges in discussions about evidence-based educational practices and interventions within the realm of mathematics instruction. The What Works Clearinghouse (WWC), established by the U.S. Department of Education's Institute of Education Sciences (IES), serves as a central hub for rigorously reviewed research on educational strategies, programs, and tools. Specifically, when focusing on math education, WWC math resources and reports provide educators, policymakers, and researchers with evidence-based insights designed to improve student outcomes in mathematics.

This article delves into the core functions of What Works Clearinghouse math, exploring how it evaluates educational interventions, the relevance of its findings for math instruction, and the practical implications for schools and districts. By unpacking the methodology behind WWC's work and highlighting key resources, educators can better understand how to leverage this information in pursuit of effective math education.

Understanding What Works Clearinghouse Math

The What Works Clearinghouse was created to address a critical need in education: distinguishing between effective and ineffective teaching methods and programs based on empirical evidence. The WWC math reviews specifically target interventions related to mathematics education, spanning early numeracy, elementary and secondary mathematics, and specialized programs for students with learning difficulties in math.

At its core, WWC math aims to provide an impartial and comprehensive synthesis of studies that meet rigorous standards for methodological quality. These standards involve randomized controlled trials (RCTs), quasi-experimental designs, and other scientifically sound approaches. By evaluating the strength of evidence supporting various math interventions, WWC helps stakeholders make informed decisions grounded in research rather than anecdote or marketing claims.

Key Features of WWC Math Reviews

The WWC math reports and practice guides are characterized by several notable features that distinguish them from general educational advice:

- **Rigorous standards:** Interventions and studies are assessed against strict criteria, ensuring that only high-quality evidence informs recommendations.
- **Clear rating system:** WWC assigns ratings such as “Meets Evidence Standards,” “Meets Evidence Standards with Reservations,” or “Does Not Meet Evidence Standards,” helping users quickly gauge the credibility of findings.
- **Focus on practical outcomes:** The evaluations prioritize student achievement in math, addressing both conceptual understanding and procedural skills.
- **Accessible summaries:** Complex research findings are translated into user-friendly summaries and practice guides aimed at educators and administrators.

These features make WWC math a trusted resource for educators seeking research-backed approaches to improve math instruction and student performance.

How What Works Clearinghouse Math Influences Educational Practice

In the context of education reform and instructional improvement, the impact of WWC math is substantial. School districts often rely on WWC findings when choosing curricula, intervention programs, or professional development initiatives. The focus on evidence-based decision-making is increasingly mandated by federal and state policies, including requirements tied to funding and accountability.

Application in Curriculum Selection

One of the most tangible applications of WWC math is in the evaluation and selection of math curricula. Given the plethora of available math programs—ranging from traditional textbooks to digital platforms—deciding which ones are effective can be overwhelming.

WWC math reviews provide objective analyses that help educators avoid costly investments in ineffective programs.

Guidance for Intervention Strategies

Beyond curriculum, WWC math offers insights into intervention strategies designed to support struggling learners. For example, the Clearinghouse evaluates tutoring models, computer-assisted instruction, and targeted remediation programs. By highlighting which interventions have demonstrated significant positive effects on student math achievement, WWC guides schools in deploying resources efficiently.

Evaluating What Works Clearinghouse Math: Strengths and Limitations

While What Works Clearinghouse math serves as a valuable tool in educational decision-making, it is important to critically assess both its strengths and limitations.

Strengths

- **Evidence-Based Approach:** WWC's commitment to rigorous research standards ensures that recommendations are grounded in scientifically validated data.
- **Transparency:** The methodology and criteria for study inclusion are openly published, allowing users to understand the basis of findings.
- **Wide Scope:** WWC covers a broad range of math-related topics, from foundational skills to advanced concepts, catering to diverse educational needs.
- **Practical Utility:** The clear rating system and accessible reports make it easier for educators without extensive research backgrounds to interpret and apply findings.

Limitations

- **Research Gaps:** Not all math interventions have been rigorously studied, resulting in limited or no WWC reviews for some innovative or newer programs.
- **Context Sensitivity:** The effectiveness of interventions can vary based on context, such as student demographics or instructional environments, which WWC reviews may not fully capture.

- **Emphasis on Quantitative Outcomes:** WWC primarily focuses on measurable achievement outcomes, potentially overlooking qualitative benefits like student engagement or attitudes toward math.
- **Update Frequency:** Although WWC updates reports, emerging research may lag behind current educational innovations, causing some findings to become outdated.

Despite these limitations, What Works Clearinghouse math remains a cornerstone resource in evidence-based mathematics education.

Integrating WWC Math Resources Into Classroom Practice

For educators aiming to harness the power of WWC math findings, practical integration requires careful consideration. The key is to view WWC as one component in a comprehensive decision-making process rather than a prescriptive solution.

Steps for Educators

1. **Identify Needs:** Assess specific math learning challenges within the classroom or school to determine which interventions or strategies might be appropriate.
2. **Consult WWC Reviews:** Explore the Clearinghouse's database to find relevant reports or practice guides that correspond to identified needs.
3. **Evaluate Context:** Consider how local factors such as student backgrounds, teacher expertise, and available resources might influence the success of recommended interventions.
4. **Implement with Fidelity:** Follow implementation guidelines carefully, as many WWC-reviewed interventions hinge on maintaining fidelity to the original model.
5. **Monitor and Adjust:** Use ongoing assessment data to track student progress and make necessary adjustments, ensuring the intervention remains effective.

In doing so, educators can maximize the likelihood that WWC math evidence translates into meaningful improvements in student learning.

The Future of What Works Clearinghouse Math in Educational Research

As education continues to evolve with technological advances and shifting pedagogical paradigms, What Works Clearinghouse math is poised to play an increasingly crucial role. The push toward personalized learning, data-driven instruction, and equity-focused practices demands robust, accessible syntheses of educational evidence.

Emerging trends such as adaptive learning software and hybrid instructional models require fresh evaluations grounded in rigorous research. The Clearinghouse's capacity to incorporate new methodologies—like big data analytics and mixed-methods research—will determine how effectively it can continue guiding math education improvements.

Moreover, the alignment of WWC math findings with broader educational policy frameworks, including the Every Student Succeeds Act (ESSA), reinforces its position as an essential arbiter of educational quality.

While challenges remain in balancing scientific rigor with practical relevance, What Works Clearinghouse math offers a valuable lens through which educators and policymakers can navigate the complex landscape of math instruction. By staying informed and critical of the evidence presented, stakeholders can better serve students and foster stronger mathematical competencies across diverse learning environments.

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what works clearinghouse math: Elementary School Math. What Works Clearinghouse Topic Report What Works Clearinghouse (ED), 2007 The What Works Clearinghouse (WWC) looked at elementary school math curricula designed to promote math knowledge and skills among elementary school students (average ages 5 to 10 years). Curricula included in this review are replicable, materials-based instructional programs that cover one or more of the following content areas: numbers, arithmetic, geometry, pre-algebra, measurement, graphing, and logical reasoning. This review considered only core, comprehensive math curricula and focused on student achievement in mathematics as the key outcome. The findings in this topic report summarize the first wave of WWC elementary school math intervention reports produced in 2006-07. WWC looked at 340 studies. Of these, 237 were assessments of interventions that qualified for review; the other 103 could not be categorized by intervention. Of the 237 studies, 9 studies of 5 curricula met WWC evidence standards, 2 without reservations and 7 with reservations. Altogether, the WWC looked at 73 interventions: 5 had studies that met WWC standards with or without reservations, 67 had studies that did not meet WWC evidence screens, and 1 had a single-case study, which is still under review. In looking at the one outcome domain for the five elementary school math curricula, Everyday

Mathematics had potentially positive effects on math achievement. Four other curricula had no discernible effects on math achievement. Includes appendix. (Contains 2 tables, 1 figure, and 6 footnotes.).

what works clearinghouse math: *Mathematics in Context (MiC). What Works Clearinghouse Intervention Report* What Works Clearinghouse (ED), 2008 Mathematics in Context is a middle school mathematics curriculum for grades 5 through 8. It was developed to align with the 1989 National Council of Teachers of Mathematics (NCTM) Curriculum and Evaluation Standards. It is also based on the Dutch Realistic Mathematics Education approach of engaging students in understanding real-life problems and gradually moving to abstract concepts. Rather than focusing on one mathematical domain at a time, Mathematics in Context teaches students to explore the relationships among different domains of mathematics and to develop strategies for reasoning through problems mathematically. Mathematics in Context also encourages students to collaborate on problem solving. No studies of Mathematics in Context that fell within the scope of the Middle School Math review met What Works Clearinghouse (WWC) evidence standards. The lack of studies meeting WWC evidence standards means that, at this time, the WWC is unable to draw any conclusions based on research about the effectiveness or ineffectiveness of Mathematics in Context. (Contains 1 footnote.).

what works clearinghouse math: Saxon Math. What Works Clearinghouse Intervention Report What Works Clearinghouse (ED), 2013 Saxon Math, published by Houghton Mifflin Harcourt, is a core curriculum for students in grades K-5. A distinguishing feature of the curriculum is its use of an incremental approach for instruction and assessment. This approach limits the amount of new math content delivered to students each day and allows time for daily practice. New concepts are introduced gradually and integrated with previously introduced content so that concepts are developed, reviewed, and practiced over time rather than being taught during discrete periods of time, such as in chapters or units. The What Works Clearinghouse (WWC) identified 26 studies that investigated the effects of Saxon Math on the math performance of elementary school students. The WWC reviewed 14 of those studies against group design evidence standards. One study (Agodini, Harris, Thomas, Murphy, & Gallagher, 2010) is a randomized controlled trial that meets WWC evidence standards without reservations, and one study (Resendez & Manley, 2005) is a quasi-experimental design that meets WWC evidence standards with reservations. Those two studies are summarized in this report. Twelve studies do not meet WWC evidence standards. The remaining 12 studies do not meet WWC eligibility screens for review in this topic area. Appended are: (1) Research details for Agodini et al. (2010); (2) Research details for Resendez and Manley (2005); (3) Outcome measures for the mathematics achievement domain; (4) Findings included in the rating for the mathematics achievement domain; and (5) Summary of supplemental findings for the mathematics achievement domain. A glossary of terms is included. (Contains 5 tables and 10 endnotes.).

what works clearinghouse math: **Everyday Mathematics[R]. What Works Clearinghouse Intervention Report** What Works Clearinghouse (ED), 2010 Everyday Mathematics[R], published by Wright Group/McGraw-Hill, is a core curriculum for students in prekindergarten through grade 6. At each grade level, the Everyday Mathematics[R] curriculum provides students with multiple opportunities to learn concepts and practice skills. Across grade levels, concepts are reviewed and extended in varying instructional contexts. The distinguishing features of Everyday Mathematics[R] are its focus on real-life problem solving, student communication of mathematical thinking, and appropriate use of technology. This curriculum also emphasizes balancing different types of instruction (including collaborative learning), using various methods for skills practice, and fostering parent involvement in student learning. The What Works Clearinghouse (WWC) reviewed 72 studies on Everyday Mathematics[R] for elementary students. One of these studies meets WWC evidence standards with reservations; the remaining 71 studies do not meet either WWC evidence standards or eligibility screens. Based on this study, the WWC found potentially positive effects in math achievement for elementary students. The conclusions presented in this report may change as new

research emerges. Appendices include: (1) Study characteristics: Waite, 2000; (2) Outcome measure for the math achievement domain; (3) Summary of study findings included in the rating for the math achievement domain; (4) Summary of subtest findings for the math achievement domain; (5) Everyday Mathematics[R] rating for the math achievement domain; and (6) Extent of evidence by domain. (Contains 10 footnotes.).

what works clearinghouse math: Accelerated Math. What Works Clearinghouse Intervention Report What Works Clearinghouse (ED), 2008 Accelerated Math software creates individualized assignments aligned with state standards and national guidelines, scores student work, and generates reports on student progress. The software can be used in conjunction with the existing math curriculum to add practice components and potentially aid teachers in differentiating instruction through the program's progress-monitoring data. Studies in this review assess the effectiveness of Accelerated Math as part of a school's core math curriculum. What Works Clearinghouse (WWC) reviewed 38 studies on Accelerated Math. None meet WWC evidence standards; three studies meet WWC evidence standards with reservations; the remaining 35 studies do not meet either WWC evidence standards or eligibility screens. Based on the three studies, the WWC found no discernible effects in math achievement. The conclusions presented in this report may change as new research emerges. Five appendixes are included: (1) Study Characteristics; (2) Outcome measures for the math achievement domain; (3) Summary of study findings included in the rating for the math achievement domain; (4) Accelerated Math rating for the math achievement domain; and (5) Extent of evidence by domain. (Contains 9 footnotes.).

what works clearinghouse math: Saxon Elementary School Math. What Works Clearinghouse Intervention Report What Works Clearinghouse (ED), 2010 Saxon Elementary School Math, published by Houghton Mifflin Harcourt, is a core curriculum for students in kindergarten through grade 5. A distinguishing feature of Saxon Elementary School Math is its use of a distributed approach, as opposed to a chapter-based approach, for instruction and assessment. The program is built on the premise that students learn best when instruction is incremental and explicit, previously learned concepts are continually reviewed, and assessment is frequent and cumulative. At each grade level, math concepts are introduced, reviewed, and practiced over time in order to move students from understanding to mastery to fluency. For grades K-3, the Saxon Elementary School Math curriculum emphasizes hands-on activities and teacher-directed math conversations that engage students in learning. The curriculum for grades 4-5 also uses math conversations to introduce new concepts, and shifts the focus to student-directed learning. The What Works Clearinghouse (WWC) reviewed 20 studies on Saxon Elementary School Math for elementary school students. One of these studies meets WWC evidence standards; two studies meet WWC evidence standards with reservations; the remaining 17 studies do not meet either WWC evidence standards or eligibility screens. Based on the three studies, the WWC found mixed effects on mathematics achievement for elementary school students. The conclusions presented in this report may change as new research emerges. Appendices include: (1) Study characteristics; (2) Outcome measures for the mathematics achievement domain; (3) Summary of study findings included in the rating for the mathematics achievement domain; (4) Summary of subgroup and subscale findings for the mathematics achievement domain; (5) Saxon Elementary School Math rating for the mathematics achievement domain; and (6) Extent of evidence by domain. (Contains 7 footnotes.).

what works clearinghouse math: Bridges in Mathematics. WWC Intervention Report What Works Clearinghouse (ED), 2009 Bridges in Mathematics, published by the Math Learning Center (MLC), is an elementary school math curriculum covering kindergarten through fifth grade that focuses on problem solving and skill building, and applies a combination of whole-group, small-group, and independent activities. Lessons incorporate visual models, including manipulatives, to reinforce learning. The What Works Clearinghouse (WWC) identified 23 studies of Bridges in Mathematics that were published or released between 1985 and 2008: four studies are out of the scope of the review protocol because they have an ineligible study design that does not meet WWC evidence standards; one study is out of the scope of the Elementary School Math review protocol

because it is not a study of effectiveness; and eighteen studies are within the scope of the review protocol and have an eligible design, but do not meet WWC evidence standards. The lack of studies meeting WWC evidence standards means that, at this time, the WWC is unable to draw any conclusions based on research about the effectiveness or ineffectiveness of Bridges in Mathematics.

what works clearinghouse math: Curriculum-Based Interventions for Increasing K-12 Math Achievement What Works Clearinghouse (ED), Washington, DC., 2004 This report summarizes evidence from studies that estimate the effects of interventions for improving the mathematics proficiency of middle school students and that meet What Works Clearinghouse (WWC) evidence standards, usually with some reservations.

what works clearinghouse math: *Middle School Math. What Works Clearinghouse Topic Report* What Works Clearinghouse (ED), 2007 The What Works Clearinghouse (WWC) reviewed interventions to promote middle school students' math knowledge and skills. Because there is some variation in how school districts organize middle school, we considered curricula aimed at students in grades 6 through 9, covering one or more of the following content areas: numbers and operations, algebra, geometry, measurement, and data analysis and probability. Only core, comprehensive math curricula were eligible for inclusion in this review. These curricula extend over the course of one semester or more, are central to students' regular school instruction, and are based on any combination of text materials, manipulatives, computer software, videotapes, and other materials. The WWC looked at 361 studies. Of these, 203 appeared to be studies of practices or other interventions that did not qualify for our review. Of the 158 remaining studies, 21 studies of 7 curricula met our evidence standards, 4 without reservations and 17 with reservations. Altogether, the WWC looked at 34 interventions: 7 had studies that met WWC standards with or without reservations and 27 had studies that did not meet WWC evidence screens. No eligible studies were identified for an additional 16 programs at the time of this review. (The identification of eligible programs ended in September 2005, and that of eligible studies in July 2006.) The WWC rated the effectiveness of middle school math curricula based on the available research evidence. In looking at math achievement for the 7 curricula: I Can Learn[R] Pre-Algebra and Algebra had positive effects; Saxon Middle School Math had positive effects; Cognitive Tutor had potentially positive effects; The Expert Mathematician had potentially positive effects; and UCSMP Algebra had potentially positive effects. Two other curricula had mixed effects on math achievement. (Contains 2 tables and 1 figure.) [The following studies met WWC standards and are reviewed in this intervention report: (1) Morgan, P., and Ritter, S. (2002). An experimental study of the effects of Cognitive Tutor Algebra I on student knowledge and attitude. Retrieved November 22, 2006, from http://www.carnegielearning.com/research/research_reports/morgan_ritter_2002.pdf; (2) Kirby, P. C. (2006, October). I CAN Learn[R] in Orleans Parish Public Schools: Effects on LEAP 8th grade math achievement, 2003-2004. (Available from the ed-cet, Inc., 2301 Killdeer Street, New Orleans, LA 70122); (3) Baker, J. J. (1997). Effects of a generative instructional design strategy on learning mathematics and on attitudes towards achievement. Dissertation Abstracts International, 58 (7), 2573A. (UMI No. 9800955); (4) Williams, D. D. (1986). The incremental method of teaching algebra I. Kansas City: University of Missouri; and (5) Baker, J. J. (1997). Effects of a generative instructional design strategy on learning mathematics and on attitudes towards achievement. Dissertation Abstracts International, 58 (7), 2573A. (UMI No. 9800955).].

what works clearinghouse math: Kumon Math. What Works Clearinghouse Intervention Report What Works Clearinghouse (ED), 2009 Kumon Math, published by Kumon North America, Inc., is a supplemental mathematics curriculum for students in preschool through secondary school. The curriculum is not structured by age or grade level, but by a student's own pace, and is composed of hundreds of short assignments that progress through increasingly difficult mathematics skills. Students complete one assignment every weekday and attend a Kumon center for two sessions per week. Every assignment is timed and graded. Students master skills through repetition and cannot progress to a new skill before completing an assignment within a set amount of time and with close to 100% accuracy. New skills and exercises build on previously mastered concepts. The What Works

Clearinghouse (WWC) identified five studies of Kumon Math that were published or released between 1985 and 2008. Two studies are within the scope of the review protocol and have an eligible design, but do not meet WWC evidence standards because there was only one unit of analysis in one or both conditions. Three studies are out of the scope of the review protocol. The lack of studies meeting WWC evidence standards means that, at this time, the WWC is unable to draw any conclusions based on research about the effectiveness or ineffectiveness of Kumon Math.

what works clearinghouse math: What Works , 1987

what works clearinghouse math: **Math Instruction for Students with Learning Problems**

Susan Perry Gurganus, 2017-02-24 Math Instruction for Students with Learning Problems, Second Edition provides a research-based approach to mathematics instruction designed to build confidence and competence in pre- and in-service PreK-12 teachers. This core textbook addresses teacher and student attitudes toward mathematics, as well as language issues, specific mathematics disabilities, prior experiences, and cognitive and metacognitive factors. The material is rich with opportunities for class activities and field extensions, and the second edition has been fully updated to reference both NCTM and CCSSM standards throughout the text and includes an entirely new chapter on measurement and data analysis.

what works clearinghouse math: **Response to Intervention in Math** Paul J. Riccomini, Bradley S. Witzel, 2010 Provides educators with instructions on applying response-to-intervention (RTI) while teaching and planning curriculum for students with learning disabilities.

what works clearinghouse math: *Second Handbook of Research on Mathematics Teaching and Learning* Frank K. Lester, 2007-02-01 The audience remains much the same as for the 1992 Handbook, namely, mathematics education researchers and other scholars conducting work in mathematics education. This group includes college and university faculty, graduate students, investigators in research and development centers, and staff members at federal, state, and local agencies that conduct and use research within the discipline of mathematics. The intent of the authors of this volume is to provide useful perspectives as well as pertinent information for conducting investigations that are informed by previous work. The Handbook should also be a useful textbook for graduate research seminars. In addition to the audience mentioned above, the present Handbook contains chapters that should be relevant to four other groups: teacher educators, curriculum developers, state and national policy makers, and test developers and others involved with assessment. Taken as a whole, the chapters reflects the mathematics education research community's willingness to accept the challenge of helping the public understand what mathematics education research is all about and what the relevance of their research findings might be for those outside their immediate community.

what works clearinghouse math: All Means All Heather Friziellie, Julie A. Schmidt, Jeanne Spiller, 2025-05-14 All students are general education students first, a principle the authors champion in this companion guide to their best-selling book *Yes We Can!* They offer practical strategies for educators to implement this inclusive philosophy through collaborative teams and shared ownership of student learning. The book provides a framework for standards-based instruction, tailored instruction, progress monitoring, and targeted interventions, ultimately promoting equitable learning opportunities for all students. K-12 teachers and leaders can use this book to: Enhance the quality of special education learning and instruction through PLC practices Build collaborative communities of professionals across general and special education Define actionable steps to create equitable learning experiences for all students Align all instruction, assessment, and grading with mutual learning goals and standards Ensure all special education students achieve the same learning standards as their peers Contents: Introduction Part 1: Learning *Yes We Can!* Chapter 1: Reexamining the Past, Present, and Future Part 2: Living *Yes We Can!* Chapter 2: Aligning Beliefs and Behaviors to Live *All Means All* Chapter 3: Collaboration by All for All Chapter 4: Standards-Focused Planning, Instruction, Assessment, and Grading for All Chapter 5: Tailoring Instruction Chapter 6: Responding When Students Haven't Yet Learned Part 3: Leading *Yes We Can!* Chapter 7: Believe Is a Verb Chapter 8: Leading the Way References and Resources

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what works clearinghouse math: *Learning and Teaching Early Math* Douglas H. Clements, Julie Sarama, 2020-12-29 The third edition of this significant and groundbreaking book summarizes current research into how young children learn mathematics and how best to develop foundational knowledge to realize more effective teaching. Using straightforward, practical language, early math experts Douglas Clements and Julie Sarama show how learning trajectories help teachers understand children's level of mathematical understanding and lead to better teaching. By focusing on the inherent delight and curiosity behind young children's mathematical reasoning, learning trajectories ultimately make teaching more joyous: helping teachers understand the varying levels of knowledge exhibited by individual students, it allows them to better meet the learning needs of all children. This thoroughly revised and contemporary third edition of *Learning and Teaching Early Math* remains the definitive, research-based resource to help teachers understand the learning trajectories of early mathematics and become confident, credible professionals. The new edition draws on numerous new research studies, offers expanded international examples, and includes updated illustrations throughout. This new edition is closely linked with *Learning and Teaching with Learning Trajectories*-[LT]2-an open-access, web-based tool for early childhood educators to learn about how children think and learn about mathematics. Head to LearningTrajectories.org for ongoing updates, interactive games, and practical tools that support classroom learning.

what works clearinghouse math: *Leading With Data* Ellen Goldring, Mark Berends, 2008-09-17 Goldring and Berends provide practical and strategic counsel on what data should be collected, how data can be productively analyzed, and who should be involved. Their book positions this advice deftly in research on leadership and organizational change. As school leaders confront the challenges of meeting the needs of all students through continuous school improvement, they will find this book an essential resource. —Willis D. Hawley, Professor of Education and Public Policy University of Maryland A comprehensive, practical guide to using data effectively for school improvement! For any educator focused on enhancing student outcomes and schoolwide performance results, knowing how to collect appropriate data isn't necessarily enough. Understanding how to analyze and use data as a pathway to improvement is the key. This comprehensive, hands-on guidebook discusses the essential statistical and assessment information that principals need to know, what types of data to look at, how to analyze the information, and how to use what they've learned to make critical choices for teaching and learning. Full of examples and recommendations, this book illustrates proactive strategies for collecting data and generating change while focusing on other measures of learning and school organization, including data about professional development, allocation of resources, family involvement, and community standards. Part of the Leadership for Learning series, this resource: Provides leaders with support in developing and sustaining schoolwide capacity for continuous improvement Links data-based decision making with accountability issues and shared mission and goals Includes numerous examples and cases, a glossary, school improvement template, sample forms, and data tools *Leading With Data* demonstrates how administrators can apply knowledgeable analysis of meaningful data for continuous, sustainable, and significant school improvement.

what works clearinghouse math: *Odyssey Math. What Works Clearinghouse Intervention Report* What Works Clearinghouse (ED), 2009 *Odyssey Math*, published by CompassLearning[R], is an interactive, software-based K-8 mathematics curriculum. It includes individualized instructional and assessment tools, as well as an administrative function that allows teachers to track student performance and progress and to generate reports. Lessons employ real-world contexts in which students can apply ideas, tools, and manipulatives, and they allow for individualized assessment and instruction. The What Works Clearinghouse (WWC) identified 23 studies of *Odyssey Math* that were published or released between 1983 and 2008. Five studies are out of the scope of the review because they have an ineligible study design that does not meet WWC evidence standards; an additional fifteen studies are out of the scope of the review, as defined by the Middle School Math protocol, for reasons other than study design. The remaining three studies are within the scope of

the review and have an eligible design, but do not meet WWC evidence standards. The lack of studies meeting WWC evidence standards means that, at this time, the WWC is unable to draw any conclusions based on research about the effectiveness or ineffectiveness of Odyssey Math. (Contains 3 footnotes.).

what works clearinghouse math: I Do We Do You Do Math Problem Solving Grades 1-5
Perfect Sherri Dobbs Santos, 2011-07-18 I DO - WE DO - YOU DO: An RTI Intervention for Math Problem Solving (Grades 1-5) is a ready-made intervention based on best practices and current research for students struggling with the underlying thought processes and step-by-step procedures of math problem solving. Each section includes a Universal Screening, data point assessments, and intervention cards which can be copied and used with individual students or small groups of students. The 'I DO-WE DO-YOU DO' intervention takes the guess work out of how to intervene with students at-risk of failure and provides teachers with the tools necessary to meet their individual needs. A total of 36 problem solving cards are included for each grade 1-5 and follow three simple steps: 1) Teacher models, 2) Teacher/student work collaboratively, and 3) Student completes independently. Detailed directions, progress monitoring graphs, and a scoring rubric are included, making the analysis of data easy to record and understand. Also available in spiral bound at lulu.com.

what works clearinghouse math: Teaching to the Math Common Core State Standards
F. D. Rivera, 2014-02-05 This is a methods book for elementary majors and preservice/beginning elementary teachers. It takes a very practical approach to learning to teach elementary school mathematics in an emerging Age of the Common Core State Standards. The Common Core State Standards in Mathematics (CCSSM) is not meant to be “the” official mathematics curriculum; it was purposefully developed primarily to provide clear learning expectations of mathematics content that are appropriate at every grade level and to help prepare all students to be ready for college and the workplace. A quick glance at the Table of Contents in this book indicates a serious engagement with the recommended mathematics underlying the kindergarten through grade 5 portions of the CCSSM first, with issues in content-practice assessment, learning, teaching, and classroom management pursued next and in that order. In this book we explore what it means to teach to the CCSSM within an alignment mindset involving content-practice learning, teaching, and assessment. The CCSSM content standards, which pertain to mathematical knowledge, skills, and applications, have been carefully crafted so that they are teachable, learnable, coherent, fewer, clearer, and higher. The practice standards, which refer to institutionally valued mathematical actions, processes, and habits, have been conceptualized in ways that will hopefully encourage all elementary students to engage with the content standards more deeply than merely acquiring mathematical knowledge by rote and imitation. Thus, in the CCSSM, proficiency in content alone is not sufficient, and so does practice without content, which is limited. Content and practice are both equally important and, thus, must come together in teaching, learning, and assessment in order to support authentic mathematical understanding. This blended, multisourced text is a “getting smart” book. It helps elementary majors and preservice/beginning elementary teachers work within the realities of accountable pedagogy and develop a proactive disposition that is capable of supporting all elementary students in order for them to experience growth in mathematical understanding necessary for middle school and beyond, including future careers.

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