The Access Center
Improving Outcomes for All Students K-8

State-to-State Information Sharing Community

Meeting Summary and Resources

October 3 and 4, 2005
Washington, D.C.

IDEAs that Work
U.S. Office of Special Education Programs

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State-to-State Information Sharing Community: Meeting Summary and Resources

Introduction

The Access Center: Improving Outcomes for All Students K–8 is charged with improving educational outcomes for elementary and middle school students with disabilities. The Center is dedicated to building the capacity of Technical Assistance (TA) systems, states, districts, and schools, to help students with disabilities learn from the general education curriculum.

To that end, The Access Center—in collaboration with the Council of Chief State School Officers (CCSSO)—has established a mechanism through which states and districts may exchange information and learn about best practices for providing access to the general education curriculum. Through The Access Center's State-to-State Information Sharing Community (ISC), participating state representatives and state teams share experiences, identify successes and challenges, find topical resources, and problem-solve in a variety of content areas.

The State-to-State ISC representatives met for the third time on October 3 and 4 2005, to continue the sharing process that was established during the last two years. Participants had chosen earlier to focus this meeting on issues surrounding math and 3–tier models. They heard presentations from nationally recognized math content specialists and researchers; specifically, the presentations focused on Emerging Research of 3-Tier Model for Math, Research-based Math Instructional Strategies, School Reform, and Progress Monitoring of Math. CCSSO staff also presented a tool called the Implications Wheel to help participants define some strategies designed to scale up effective interventions that would effect change at the state level.

Following the presentations, participants discussed the most effective ways to implement research-based programs, practices, and tools in the areas noted above. Meeting participants and Access Center/CCSSO staff also shared applicable tools and resources available to assist states in their efforts to improve educational outcomes for students with disabilities.

To support and maintain the ISC's collaborative efforts that are strengthened at each face-to-face meeting, the Access Center uses distance technology activities to sustain ongoing contact and connection among the community, such as:

- Web-based tools— including webinars—for sharing effective practices;
- Coordinating conference calls among state teams for information sharing, problem solving, and providing mutual support; and

- Developing written articles, conference proceedings documents, and case studies of effective efforts to improve access to the general education curriculum for students with disabilities.

Following is a review of each presentation given during the October meeting, as well as strategies that states are using to improve access for students with disabilities, and a list of additional resources that states can use to establish and refine their effective practices.[1]

For more information about the October meeting, or about ISCs in general, contact: Susan Skipper at (202) 403–5193 or sskipper@air.org.

[1]The Access Center for Improving Outcomes for All Students K–8 is a national technical assistance center funded by the U.S. Department of Education's Office of Special Education Programs (OSEP). Drawing from national legislation such as the No Child Left Behind Act and IDEA '04, the Center is designed to connect states and districts with research-based practices, tools, and materials that can help students with disabilities access the general education curriculum. The Center specializes in helping decision-makers use data to improve instruction and services for students with disabilities through a variety of technical assistance strategies, including direct assistance, Web-based services, and an information sharing community program.

Information Sharing Session
October 3, 2005
Session 1

Presentation by Dr. Diane Bryant
Associate Dean for Teacher Education, Student Affairs, & Administration
The University of Texas at Austin, College of Education

"An Emerging Model: Three-Tier Mathematics Intervention Model"

The Three-Tier Mathematics Intervention Model that was discussed developed based on emerging research that Dr. Bryant is conducting through the Special Education Research Project (SERP)—Mathematics. The model is based on the 3-Tier Reading Model formulated by Dr. Sharon Vaughn and her colleagues at the University of Texas. The work that has been done in reading is several years ahead of the work that has been done in math.

What is the 3-Tier Math Model?

1. It is a prevention and intervention model for students in K–2 who are struggling in the area of math. An early diagnosis can be made that could prevent more difficulties down the road. Why not K–3? At this time, heavy work loads and limited resources prevent expansion to other grades.

2. The model provides a framework to guide decision making. It uses critical assessment data to help teachers identify which students are struggling. There are several different instruments to measure mathematical competency, but for math the work is not as far along. Most states have developed their reading measures, but not quite as many have for math. The data resulting from the assessment measures is important to help identify those children who need assistance, and to guide decisions concerning whether or not certain students need more intense, tier 2 services.

In the area of early reading, there has been quite a lot of work done to identify scientifically-based studies and practices. There has been some similar work done in math, but the goal is to identify those practices in tier 2 that will make a difference for students. Educators need to balance our teaching methods with the core typical instruction and those that have a strong research base, such as explicit instruction or error correction.

3. It is a response-to-intervention model but is still in the development stage – currently, there are no benchmarks to rely on for each tier that indicate the level at which each student is performing, as exist in reading. How much time do we spend on each topic? Tier 2 instruction in reading has a research base, which specifies the appropriate group size and duration of instruction, but math does not.

Components of the 3-Tier Mathematics Intervention Model

Tier 1 incorporates the National Council of Teachers of Mathematics (NCTM) standards in core classroom instruction for all students (45–60 minutes in K–4).

Bryant and her team spent time with a focus group of teachers in their classrooms to learn what problems the students were having and how often these occurred. The teachers were pulling pieces together and looking at a range of resources to make a decision about what to teach. They focused on the NCTM standards and added up all the time blocks that are required to teach certain concepts.

Using the National Science Foundation (NSF) and NCTM standards and instructional recommendations, the teachers created lessons for all the students, keeping an eye on those students who appeared to be struggling. For the latter group, the teachers focused on using instructional adaptations (content delivery, materials, or activity changes) to help the students learn the material. The teachers were willing to adapt the materials or instruction for children who were struggling; however, the teachers found that they needed more time to do so adequately. If the majority of the class is part of teachers' core instruction, how do teachers simultaneously work with smaller groups? They could use a student-centered approach, having the students engaged in meaningful self-directed activities.

Approximately 20%–30% of the students qualified for receiving **tier 2** intervention, which provided an additional fifteen to twenty minutes of instruction over a period of ten weeks. The goal was to identify through assessment those students at about the 25th percentile and below. Some students were having lots of problems with math. If teachers go up to the 30th percentile, they run the risk over-identification and obtaining false positives.

In reading, tier 2 is usually 30 minutes. Based on the time constraints each teacher faced, however, they began with an additional ten minutes, focusing on the mastery of numbers, and then moved to fifteen minutes of additional instruction. Ideally, twenty additional minutes should be provided, but this would take time away from the other academic subjects.

The researchers are still trying to figure out whether ten weeks of more intense instruction still makes sense for tier 2. There is usually a higher-performing group of tier 2 students, and a lower-performing group. Although they are homogeneously grouped, students need different instruction and a focus on different types of skills.

Students in tier 2 usually receive differentiated instruction, which is focused upon number and operation; includes explicit instruction in small, homogeneous groupings; has levels of instructional need; and includes intervention lessons on number and operation. The assessment data dictates the grouping; groupings often switch over the year.

Tier 3- These are students who performed below the 16th percentile. Intensive additional intervention is given to approximately 5-8% of identified students (may include special education students), for approximately another 30 minutes each day.

Assessment in tier 3 of the Mathematics Model is conducted in the Texas Education Agency Math Inventories.

In kindergarten, the students are tested in quantitative recognition (subitizing), numeral naming (1–20), magnitude comparisons (1–20; bigger/same), and number sequences (1–20). Testing is done at screening, and then again at the midpoint of the year.

In first grade, the students are tested in place value (ones/tens), magnitude comparisons (1–99 smaller/same), number sequences (1–99), and add/subtract combinations (to 18). Testing is done at screening, and then again at the midpoint of the year.

In second grade, the students are tested in place value (one/tens/ hundreds), magnitude comparisons (1–999; smaller/same), number sequences (1–999); add/subtract arithmetic combinations (to 18). Testing is done at screening, and then again at the midpoint of the year.

All grades are tested in the SAT-10 (pre/post outcome measure)

Assessments are usually performed:
Pre-services—September/October
Mid-year
End of year

How Can Your State Get Started?

In tier 1, ensure that core instruction is inquiry-based and standards-based. Keep your eye on possible tier 2 students. Help teachers identify ways to adapt instruction and to monitor performance, identify ways to have balanced instruction, and find ways to free up time so that teachers can address students' needs at all three tiers.

For Tiers 2/3:

- Identify the standards that you wish to emphasize as part of tier 2 instruction (number and operation);
- Identify the assessment measures to be used and when they will be administered; Include fluency;
- Identify who will provide the tier 2 & 3 instruction, and how often;
- Identify the interventions to be used; and
- Help teachers integrate tier 2 into their day (amount of time, practices: student work stations).

Question: What do you see for this area for the pre-service of teachers?

Bryant's Answer: We need to continue to develop this model, and then validate it. Once that is done, we need to provide professional development for pre- and in-service personnel.

Question: How can we tie together the instructional strategies and the 3-tier model?

Bryant's Answer: The research-based strategies discussed by Dr. Gagnon should be used with all students in tier 1. DI, explicit instruction, modeling, and pacing make effective instruction. The assumption is that all students are in tier 1. If appropriate achievement is not observed, students in tier 2 receive additional instruction in the skills they are lacking.

Information Sharing Session
October 3, 2005
Session 2

Presentation by Dr. Joseph Gagnon
Assistant Professor, College of Education and Human Development
George Mason University

"Effective Math Instruction for Students with High Incidence Disabilities"

A lot of the strategies that we know work for students with disabilities can also work with other students. Special education reform has come about due to the poor progress of students with disabilities. The result of poor student progress has been NCLB and IDEA. In fact, algebra can be accessible to all students, including students with disabilities, if teachers use effective strategies.

What do we know about students with disabilities? We know that they are performing behind both grade level expectations and their non-disabled peers. We know they experience difficulty in mathematics. We know that progress plateaus at about the third grade level.

What do we know about students with emotional disturbances? We know that they need to see the relevance of instruction. Over half of them do not get a high school diploma. They have low impulse control, they need direct instruction, and they need guidance with problem solving.

There are specific recommendations for math instruction, given what we know about how these students learn. All instruction should begin with Direct Instruction, including teaching students how to use buttons on a calculator. Students need to be taught specific strategies. A specific instructional sequence such as "Concrete-Semiconcrete-Abstract" should be followed. Real world problem solving and technology should be emphasized. Work completion should be rewarded, and math should be applied to student interest. Instruction should both incorporate examples and non-examples. Teachers need to use all approaches rather than rely on one single approach. Students should practice computing math problems with and without calculators. Teachers should stay current with technology, which can be a huge challenge for some teachers. Grouping for instruction should incorporate cooperative learning and peer tutoring, with reinforcement provided for students that are on-task during group instruction. This will teach students how to behave during these group sessions. Mnemonics and graphic organizers can be used to help students remember facts and understand the relevance of the topic being covered. Some strategies can be used in a variety of ways, while some can only be used one way. Teachers cannot be expected to implement all of these strategies instantly; rather, they should work to add one strategy to their instructional method at a time. Students need explicit instruction on strategy use. For the majority of the student population,

we do not make adaptations on *what* they need to know (the curriculum); we make adaptations on *how* we instruct them (the instruction).

Facilitated Discussion: Sessions 1 and 2
Math Initiatives

1. What is your state currently doing in this area? What successes have you experienced?

Ohio

They have developed a website, www.diagnostictestsupport.org. The website contains 3-tier activities that are parent and teacher friendly.

Pennsylvania

Through their SPM initiative, they are identifying standards for math. In February, they had an institute on how to move this forward. They are currently in the process of working the Ann Fagan of Iowa, involving themselves in research around algebra probes, and working closely with their DOE for a state-wide tutoring program.

Louisiana

Louisiana has adopted grade level expectations (GLE) and has released a curriculum pre–K through 12 for all math courses. The Louisiana Department of Education website, www.Louisianaschools.net, has assessment and diagnostic information on the site, and one can follow a student through each grade to evaluate progress. In the aftermath of Katrina, Louisiana is struggling to provide services to students without records and extends its gratitude to the states who are temporarily serving displaced students.

Washington

Washington's math committee has set the goal to have 100% of their students passing the standards by 2008.

Kentucky

Kentucky is just getting started with a math initiative and is submitting a proposal to look at revamping assessment to reflect depth of knowledge.

West Virginia

WV has developed standards and an assessment for the State. Last year ended a grant-funded math initiative.

Kansas

Kansas is working on an integrated approach by working with all teams across schools and districts (through Special Education and Title 1). There is a website that covers school improvement, standards, and assessments. They are currently without a commissioner. Kansas conducts its own assessments rather than contracting these out. These are done through the University of Kansas. Due to this, the content specialists have become assessment specialists.

California

California reauthorized training for teachers and principals in math. There was a high school summit with breakout sessions on math, focusing on algebra and the state exit exam.

2. Are there ways to build off of what is already in progress?

Ohio

Developing modeled lessons built upon standards has been a focus. Professional development is the next step. Concerning the Ohio Mathematics Achievement Program (OMAP), high school was the initial focus, including algebra, geometry, and statistics for grades 7–10. Mathematics for grades 3–6 was added. Middle school has been an issue because many teachers have been trained for K–8, and they need to review some math concepts. Specialists have been gathered to assist teachers with math skills. It has been a struggle to get teachers to attend professional development. They feel there is a minimum of 10–15 days of training needed, and this is difficult to attain during the summer. There is a plan to begin professional development during the school year, on evenings or on weekends. The goal is to improve teachers' content area knowledge.

3. What challenges may/has your state/agency faced in scaling up best practices in this area?

Ohio

Ohio questioned whether there was a push to convene a national math panel to review the research.

Pennsylvania

Pennsylvania is identifying research-based supplemental programs in math.

Louisiana

This is the first year with a comprehensive curriculum, but staff development was not conducted by each LEA. The twin disasters of Katrina and Rita revealed to teachers across the state the benefits of the comprehensive curriculum. There was also an opportunity to bridge the gap between GE and SE.

Resources

National Research Council (NRC): *Adding It Up* publication focuses on numeracy and computation.

Fordham Foundation: The Fordham Foundation examines math standards for each state and has rated each state.

Information Sharing Session
October 3, 2005
Facilitated Implications Wheel Session

Presentation by Dr. Elaine Bonner-Tompkins
Director of Special Education
CCSSO

"Identifying Trajectories for Scaling-up Research Based Practices in Math: A Description of the Implications Wheel Session"

To assist teams in scaling up research-based strategies in mathematics within their states, participants engaged in a Highly Facilitated Wheel. The Highly Facilitated Wheel is part of the strategic planning process trademarked under Joel Barker's Implications Wheel Strategic Exploration Tool. This tool, also known as the I-Wheel, offers a systemic way of thinking about and evaluating any change and determining its potential long term, positive and negative implications. The I-Wheel can serve as an effective tool for small groups of diverse stakeholders to 'scout' the future about what may occur if an organization commits its resources and talents to achieve a desired goal. Forecasting the future and identifying both the positive and negative consequences that can occur from a particular course of action served as the primary goal of this two-hour exercise.

The I-Wheel was developed based on that logic that a single action creates a rippling cascade of consequences rather than a linear impact. The I-Wheel is a tool for modeling this process. Another premise behind this process is that trajectories of consequences identified in an I-Wheel are possibilities that can be altered through strategic planning by decision-makers, rather than certainties about what will occur. Therefore "scouting" the future to enable decision makers to improve the future is a key objective of the I-Wheel process. Elaine Bonner-Tompkins of CCSSO, who has been licensed to facilitate I-Wheels, led this session with the assistance of staff from The Access Center and CCSSO.

This session began with an overview of the effective characteristics of "good scouts." These characteristics include *speed* and not getting bogged down with too much discussion; an understanding that scouts are *sampling* for information rather than trying to describe the entire realm of possibilities; that they are collecting *qualitative information* from many directions; that they are trying to visually *map implications* and ultimately collect information that can *enhance decision making*. The benefits of the I-Wheel discussion included: Seeing a larger landscape of events and a longer horizon of time; reducing levels of uncertainty; having a clearer "map" of connections between implications; and engaging a diverse group of people in a shared task that can benefit all who participate by enlarging their view of the future and expanding their personal paradigms of the possible.

Next, the rules for writing good implications were shared. These included:

1. Working in concentric arcs to complete all first order implications before considering second or third order implications; watching for "out of order" implications;

2. Generating at least one positive and one negative implication for each node to minimize group think;

3. Being as specific and concrete as possible in describing implications;

4. Understanding that repetition and contradiction are fine;

5. Limiting group discussions so that as soon as there is a agreement that an implication is possible, it is recorded on the wheel and the group moves immediately to the next one;

6. Using conditional language to present implications by beginning each implication with the phrase "one possibility is …";

7. Avoiding criticism about the veracity of a potential implication by remembering that "the weird and the obvious" are just fine as long as they are possible;

8. Writing each implication so that a stranger can understand what you mean; and

9. Writing legibly.

After reviewing the rules, the following center question for the state to state information sharing community to consider was offered: If our state made the scaling up of **research-based strategies in mathematics** an organizational priority, what might happen next? To this center question, more than a dozen first order implications were identified by the group. The group then voted to narrow the number of first order implications to be considered by the arc teams to four. The following first order implications for making the scaling up of research-based strategies in mathematics a state educational agency priority were selected:

1. There might be a need for more funding to move forward with this priority

2. There might be an increasingly shared focus on math across state educational agency offices and divisions

3. The identification of research-based practices in mathematics to be scaled up might occur

4. There might be a need for the state to elicit the buy-in of local districts to support the new statewide priority

Each of these potential immediate consequences for making the scaling up of effective practices in mathematics a state priority were considered by a separate team comprised of five to six meeting participants. Staff from the Access Center and CCSSO assisted the arc teams in identifying the second and third order implications that could emerge as a result of their assigned first order implication. Arc teams were advised to develop five second order implications for each first order

implication and to develop five third order implications for each second order implication. Staff also assisted the arc teams in scoring each implication offered in terms of desirability and likelihood from the perspective of the state educational agency. The results of these conversations were recorded on I-Wheel Arcs templates copyrighted to Joel Barker and licensed to CCSSO. At the end of the day each arc team's information was entered into the I-Wheel software and a summary implications wheel was completed. A copy of the State Math Priority Wheel can be found in the Appendix; a description of its results follows.

First, Second, and Third Order Implications for Making the Scaling Up of Effective Practices in Mathematics a State Priority

1. **Need for more funding**. Amy Klekotka of the Access Center facilitated the arc team that focused on this first order implication. Second and third order implications identified by Arc Team 1 follow.

    1.1. **A reallocation of existing resources to support the state new math priority** was the 1st second order implication identified. This implication was considered highly desirable and highly likely.[2] Among the possible third order implications identified, a "rethinking of the use of discretionary funds to support math instruction" was considered highly desirable and likely to occur while the "elimination of positions within the state education agency" was considered highly undesirable but unlikely to occur.

    1.2. **A search for alternative and additional sources of funding** was the 2nd second order implication identified. This implication was also considered highly desirable and highly likely. Among the third order implications identified, the consequence that "alternate resources may be limited in duration" was viewed as highly undesirable and likely to occur while "mapping of existing resources to identify potential resources to the new initiative" was viewed as highly desirable, but unlikely to occur.

    1.3. **A solicitation for legislative mandates that secure additional state funding to support the new math priority** was the 3rd second order implication identified. This implication was considered to be extremely desirable[3], but not very likely to occur. Among the third order implications generated, two were viewed as very desirable but unlikely to occur: "Guaranteed sources of funding would emerge from a legislative line item for math programs" and "improved awareness of research based practices in mathematics." One undesirable and yet highly likely third order implication also emerged: "Many strings would be attached to any new state funding."

[2]In referencing the I-Wheel in the Appendix, implications color-coded blue are highly desirable from the perspective of state educational agencies, scoring a 4 or 5 on scale of -5 to +5 measuring desirability. Implications color-coded red are highly undesirable, scoring a -4 or -5 on the desirability scale. A ring around a color-coded implication suggests that this implication is highly likely to occur, with a score of 7 or above on scale of 0 to 9 measuring likelihood.

[3]Extremely desirable reflects a score of 50 on the desirability scale. These implications are color-coded with blue stars on the I-Wheel. Extremely undesirable reflects a score of -50 on the desirability scale. Red stars describe these implications.

1.4. **A lack of additional funding becomes an excuse for not moving forward** was the 4th second order implication identified**.** This implication was considered undesirable and also very likely to occur. Among the third order implications generated, three were viewed as highly desirable but unlikely to occur:

1.4.1. "A grassroots efforts to improve the scaling up on research based math practices emerges"

1.4.2. "Stakeholders are encouraged to think out of the box for low-cost alternatives"

1.4.3. "A change of leadership occurs that moves the new priority forward."

Two highly undesirable third order implications also occurred: "a hindrance of economic development within the state" that was also considered unlikely and "a continuation of the status quo" that was alternately viewed as highly likely to occur.

1.5. **The establishment of formal partnerships among key stakeholders to secure additional resources** was the 5th second order implication identified. This implication was considered extremely desirable but unlikely. Among the third order implications identified, three emerged as being highly desirable and highly likely to occur: "Improved collaboration between the state educational agency and other educational agencies such as institutions of higher education, regional centers and technical assistance providers"; "improved collaboration with parents"; and "improved collaboration with the business community."

2. Shared focus on math across agency offices and divisions. Mary Kelly of CCSSO facilitated the arc team that focused on this first order implication. Second and third order implications identified by Arc Team 2 follow. Due to time constraints, only one implication was scored for likelihood.

2.1. **Greater alignment of assessment, instruction and curriculum to mathematics standards** was the 1st second order implication identified. This implication was considered extremely desirable. Five highly desirable third order implications were also identified:

2.1.1. "The solicitation of technical assistance from federal and national organizations by the state to support improved alignment"

2.1.2. "A rethinking of needs assessments to enable progress monitoring"

2.1.3. "Development of a statewide pacing calendar for assessment"

2.1.4. "Alignment of textbooks and curriculums to state pacing calendar"

2.1.5. "The creation of interim assessments aligned to assessment systems"

2.2. **A realization that there is not enough funding to support a shared focus** was the 2nd second order implication identified. This implication was considered extremely undesirable. An extremely undesirable third implication identified was "the poor

implementation of research-based practices in math. A highly desirable implication identified was "increased use of technology to better utilize limited funds."

2.3. **The streamlining and integration of resources using math as the focus** was the 3rd second order implication identified. This implication was considered to be highly desirable. Three highly desirable third order implications were identified:

2.3.1. "Districts align and become more streamlined in their approaches"

2.3.2. "The curriculum becomes aligned to state standards"[4]

2.3.3. "Technical assistance by federal agencies and national organizations is provided to states"

2.4. **Teaching methods will become more effective and efficient** was the 4th second order implication identified**.** This implication was considered extremely desirable. Five highly desirable third order implications were identified:

2.4.1. "Greater technical assistance provided by federal agencies and national organizations to states"

2.4.2. "Increased access to the general education curriculum in math"

2.4.3. "All staff become trained in using data to improve instruction"

2.4.4. "Teacher education programs improve"

2.4.5. "Increased use of universal design"[5]

2.5. **Additional stress and responsibility assigned to over-worked staff at all levels** was the 5th second order implication identified. This implication was considered extremely undesirable. However, two highly desirable third order implications were identified: "A retraining for staff at all levels in standards based reform" and "expansion of information sharing communities to enable learning among states and others." This implication was also scored as highly likely to occur.

3. The identification of research-based practices in mathematics. Jacki Bootel of the Access Center facilitated the arc team that focused on this first order implication. Second and third order implications identified by Arc Team 3 follow.

3.1. **The development of criteria to determine which strategies are research-based** was the 1st second order implication identified. This implication was considered highly desirable but unlikely to occur. Among the third order implications identified, two undesirable but likely to occur implications were identified: "a lack of agreement among stakeholders within the state educational agency on the criteria or effective

[4]This implication was considered extremely desirable (i.e. score of 50 in terms of desirability).
[5]Ibid.

practices identified" and "finding a lack of evidence to support strategies that are purportedly research based."[6]

3.2. **Difficulty in finding appropriate and qualified personnel to identify best practices** was the 2nd second order implication identified. This implication was also considered highly desirable but not very likely. For this second order implication, two highly desirable third order implications were identified: "professional development opportunities increase," which was scored as extremely desirable but not very likely; and "greater opportunities to include stakeholders in shared decision making," which was also scored as highly likely to occur. Two highly undesirable but likely to occur third order implications were also identified: "An overloading of state educational agency and local education agency staff" and "a lack of funding to hire needed personnel," which was also scored as extremely undesirable.

3.3. **The creation of balanced programs to ensure general and special education access to the curriculum** was the 3rd second order implication identified. This implication was considered highly desirable and likely to occur. Among the third order implications generated, "establishing communication times to enable collaboration" was scored as highly desirable but not likely to occur; "involving both disciplines in decision making" was scored as extremely desirable and likely to occur; and "a persistence in the culture of separation between general and special education at the school level" was rated as extremely undesirable and also likely to occur.

3.4. **The creation of positive learning and teaching environments** was the 4th second order implication identified**.** This implication was considered extremely desirable and not very likely to occur. Four highly desirable third order implications were identified: "an increase in student achievement," which was scored as extremely desirable and also likely to occur"; "increase teacher and student morale," which was also scored as very likely to occur; "more professional and collaborative relationships among teachers," which was scored as not likely to occur; and "more shared and distributed leadership among special education and regular education teachers" which was also scored as not likely to occur.

3.5. **The alignment of instruction, standards and assessments** was the 5th second order implication identified. This implication was considered extremely desirable and likely to occur. Two highly desirable third order implications were also identified: "increased student achievement in schools," which was scored as extremely desirable and also likely to occur; and "teachers having a clearer focus on what they should teach," which was viewed as highly desirable but not highly likely to occur.

4. **A need to elicit local district buy-in to support the new state priority**. Claudia Edmondson of the Access Center facilitated the arc team that focused on this first order implication. Second and third order implications identified by Arc Team 4 follow.

4.1. **The development of a public relations campaign** was the 1st second order implication identified. Three highly desired and likely third order implications were

[6]This implication was considered extremely undesirable (i.e. -50 score on desirability scale).

identified: "identification of resources to include in the campaign," "the identification of the benefits of the new strategy for stakeholders," and "the identification of community partners." One undesirable and likely third order implication was also identified: "negative concerns regarding the new state priority may emerge."

4.2. **The use of data to illustrate to districts the benefits of the new state priority** was the 2nd second order implication identified. Two highly desired and likely third order implications were identified: "Improving systems of data reporting around the new initiative" and "improving systems of data analyses." One highly undesirable and likely third order implication was also identified: "Improving systems of data collection" and the challenges associated with this.

4.3. **The development of state infrastructure to support the new initiative** was the 3rd second order implication identified. Two highly undesirable third order implications were identified: "Compromised fidelity of implementation," which was considered unlikely to occur and "increase in staff turnover," considered highly likely to occur. One highly desirable third order implication was also identified: "The state develops strategies to offer differentiated technical assistance to districts and schools." However, this implication was considered not highly likely to occur.

4.4. **Resistance among district and state staff to the new initiative** was the 4th second order implication identified**.** Three highly desirable third order implications were identified, two of which were also considered highly likely. "State considers and learns from past failure" and "The need for strong persuasive leadership increases" were viewed as highly desirable and likely to occur. "Time for limited discussion to quell fears becomes available" was also viewed as highly desirable but not very likely to occur. Lastly, one undesirable but not likely to occur third order implication was identified: "Sabotage against the new initiative among staff increases."

4.5. **Improved state leadership** was the 5th second order implication identified. This implication was considered extremely desirable and likely to occur. Three desirable third order implications were identified. "State required training" was viewed as highly desirable and likely; "state develops vision and focus" was viewed as extremely desirable and likely; and the "promotion of collaborative team approaches" was viewed highly desirable but not highly likely to occur.

Information Sharing Session
October 4, 2005
Session 3

Presentation by Steve Fleischman
Director of CSRQ Center
American Institutes for Research

"Works in Progress: A Report on Middle and High School Improvement Programs"

Under the No Child Left Behind Act (NCLB), schools are being held increasingly accountable for the academic achievement of all students. In addition, educators are now asked to use scientifically-based research programs and practices. The challenge for educators becomes how to use research evidence to improve student achievement. Therefore, educators should first consider what really works. To determine this, educators should:

- Review what people claim work;
- Examine the evidence of these claims;
- Determine if the finding is important.

There are many sources of evidence. We get evidence from empirical studies, and we know things from professional experience. The evidence that a program is effective must be based on scientifically designed research combined with professional wisdom. Without these two factors, education cannot adapt to local circumstances or operate intelligently in the many areas in which research evidence is absent or incomplete.

In reviewing the evidence, educators need to determine its strength. To do this, we should consider the following questions:

- Is a detailed description provided of the study sample so you can decide if the sample studied is relevant to you?
- Is the study context similar to your educational setting/context?
- Is there an indication that the program, and not some other factor, is the likely source of change in the students' outcome? For example, if the study uses a randomized control trail, was treatment withheld from the comparison group?

- Are the findings based upon appropriate methodological analysis?
- Can you replicate the study? Is there sufficient detail on the implementation of the intervention?
- Is there sufficient explanation of the research findings?

Mr. Fleischman described several resources for judging the efficacy of research and resources on school improvement. Some of the resources mentioned included:

- *Works in Progress* from the CSRQ Center http://www.csrq.org/docs/WorksInProgressReport_Web.pdf
- *Educator's Guide to School-wide Reform:* Educational Research Service
- What Works Clearinghouse reviewed middle school math programs http://www.whatworks.ed.gov/
- *Safe, Supportive, and Successful Schools Step by Step*: Sopris West

Facilitated Discussion: Session 3
School Reform

Ohio

A task force was convened to examine high schools in the state. One of the recommendations from the task force was to align a PreK–16 system in Ohio. This recommendation is being implemented. The Department of Education is working with Universities and administrators to design a program for grades 9–12, which aligns with a PreK–16 program. The Department of Education is also examining the programs and strategies schools are using to support students. In addition, the Department of Education is developing a system to track the postsecondary outcomes of students so they will be able to identify which student factors correlate with success or non-success after one and five years after graduation.

Pennsylvania

The state has instituted Project 720 (days from freshman year to graduation).

Louisiana

The state department of education has used grant money to work with LSU to recruit and train math and science teachers at the middle and high school level. The Department of Education is also developing a preK–16 reading plan.

Alabama

Alabama has developed a map for high school reform, which begins at the middle school level. The Commissioner of Education has talked about how high schools should look to prepare students better for postsecondary success. In addition, they are also working to increase advanced placements.

Washington

The state department of education is focusing on school improvement. In January a conference will be held with 4,000–6,000 educators attending. At the conference there will be a one day high school summit. The special education department is focusing on graduate rates and pathways to receiving a diploma, including alternate assessments, transition, and postsecondary outcomes.

Kentucky

Kentucky has been doing school reform for fifteen years. The state conducts an audit of all schools that are not making adequate progress, based upon indicators developed by the state. The audit occurs at both the school and district level and is conducted by personnel from the state department

and university. During the audit, the state examines those indicators for which the schools score the weakest. The schools that do not make adequate progress are called Level Three Schools. Each school has a different level it needs to achieve.

West Virginia

West Virginia has quarterly school improvement conferences attended by superintendents and county directors.

Kansas

Kansas is currently in the planning stage concerning middle and high school reform.

Information Sharing Session
October 4, 2005
Session 4

Pamela M. Stecker, Ph.D.
Associate Professor, College of Health, Education, and Human Development
Clemson University

"Progress Monitoring in Mathematics"

Using student progress monitoring in mathematics is one way to make sure students are actually learning and teachers are modifying instruction to meet student needs. There are a variety of methods and procedures; however, Dr. Stecker directly addressed scientifically-based Curriculum Based Measurement (CBM.) CBM has its roots at the University of Minnesota with Stan Deno, who wanted to help develop IEPs and monitor students' progress toward goals. CBM has since expanded and is used in general education in math, reading, writing, spelling, early literacy, and high school content. The Research Institute on Progress Monitoring's (RIPM) website continues to update CBM research. Teachers who monitor student progress and change instruction in response to the data, help bolster student achievement. CBM is sensitive to progress, as well as to flat or deteriorating achievement levels.

In a typical system of mathematics instruction of target, teach, and test, how do we know we are moving the student through the curriculum in such a way that he or she will achieve mastery of the curriculum by the end of the year? CBM circumvents this issue and can be used with any curricular program, plotting growth across the year rather than by skill. This is accomplished by defining a long term goal—i.e. what does the student need to know by the end of the year, and using alternate forms of a probe at least once a month. CBM incorporates short measures of long-term goals.

Timed tests are a critical feature of CBM. In a mastery measurement, students are given unlimited time. CBM measures fluency—how quickly students can answer questions accurately. The teacher chooses a mastery criterion for each goal and must be sensitive to the concern that many students will never get a top score due to the time element. This standardizes the probe so that comparisons can be made among measures. The data need to be meaningful so that teachers can make good, meaningful decisions. The student's progress is monitored by looking for a trend toward the goal line; teachers can modify instruction, raise the goal, or reduce time if the trend exceeds the goal. Trends can be observed in terms of improvement across the class, individual students, and specific skills.

Facilitated Discussion: Session 4
Progress Monitoring

1. What is your state currently doing in this area? What successes have you experienced?

Alabama

Alabama is investigating SPM as a statewide initiative, with pilot sites using DIBELs through the Department of Special Education. National Center on Student Progress Monitoring (NCSPM) has a matrix of SPM tools online to compare commercial products. Alabama is trying to implement SPM statewide in reading and math prior to moving to Response to Intervention (RTI) so that there is data in place to make appropriate decisions.

Louisiana

Louisiana is using two grants. With one grant, they have devised two grade level probes and are working toward norming them. The second grant uses AIMSWeb for students with disabilities. The first year focused on public awareness, educating teachers and demonstrating student achievement gain. Louisiana is now moving into full implementation and fidelity in five schools in each parish (county). They have also developed a resource library of tutorial intervention materials to determine which interventions are most effective for which skills.

Pennsylvania

Pennsylvania has been doing statewide SPM training for three years as part of SIG. Their data can be found at http://www.pattan.k12.pa.us/teachlead/ProgressMonitoring.aspx. They have partnered with Lehigh University for extensive onsite training in reading and math. Teachers have mastered the 7-step process but still need support in research-based interventions. Teachers have been using the Fuch's model and AIMSWeb. Training teachers how to manage the classroom and chart progress has been a major step. They have also partnered with PTIs who have developed parent training in SPM. AIMSWeb has been a reference to the staff who has led the training.

Kansas

Kansas has a long history of CBM efforts, but the initiative has currently stalled out. There is one district interested in using a tool and building a web-based system around the data to determine interventions.

2. What challenges may your state/agency face in scaling up best practices in this area?

Kansas

The current initiative is coming from general education, rather from special education, which lends support.

Alabama

Alabama is hoping for the SPM initiative to come through general education and tie to adequate yearly progress (AYP) so that it can be determined how best to help schools. NCSPM is a good place to go for technical assistance, including training.

Washington

Washington is interested in learning if the IDEA Part B 15% funding available for EIS can be used by states to support SPM.

General Facilitated Discussion

Kansas

We talk a lot about school reform, but what about systems reform? If school reform follows the same structure, how do we address system reform, especially with regard to closing schools in low population areas? How do we ensure that systemic reform is occurring to change the system of delivery altogether? How do we address challenges in delivering services in high school (beyond CSR) to truly engage students?

Kansas wants to know whether any state systems are set up to align accreditation to NCLB, especially in identifying high schools and middle schools as "needs improvement."

Their first SIG grant went to 22 Universities in Kansas to focus on how pre-service programs will address students with disabilities. The following SIG grant focused on improving principal knowledge. They have been working with universities to develop a combined license w/ early childhood.

Louisiana

They reported that 13% of math and science teachers are trained in special education. There are some university projects to help special education teachers participate in one content area of the general education content. They will have a content certification in general education and special education (dual certification) when they are done.

They are using distance learning to address rural issues. Louisiana currently does not have enough highly qualified teachers that can teach higher level math. They hope to use graduate students paired w/ math teachers to increase the pool of highly quality math teachers in these areas. This could happen through distance learning to help rural teachers.

Alabama

Alabama has identified some schools in need of improvement but is struggling with how to meet the needs of all the schools in need of improvement. How do we ensure that students are engaged in learning, not just meeting AYP? This can just happen at one or two schools and gets back to the need for systemic change.

One problem is that mostly special education teachers teach content to special education students. They want general education to work in collaboration with special education to develop new

certifications. They would like to have a new teaching certificate for the significantly challenged/disabled. Special education is driving this change.

They shared a problem with meeting AYP even when other state goals have been met. They had a goal of reducing SWDs from 100,000 to 93,000—they significantly lowered the learning disabled numbers. Their model programs have shown a 12 to 7 decrease in special education students, but it is still not enough. Even though great progress has been made, it still doesn't meet AYP criteria. They believe that states should be held accountable for making good progress, not just for meeting a target.

They would like more information on how university training programs are being redesigned to prepare special education teachers. They are trying to develop a common vision of general education and special education at the universities. What is being done to change general education certification? What outcomes are expected for special education teachers at the middle school level?

They are working with universities on teacher preparation program requirements for general education pre-service that will include four basic special education courses: PBIS, methods, survey course, courses in severe and profound SWD, and would want the courses in content to be co-taught with special education pre-service instructors. They will start with changes in teaching instruction, and then try to create change at the leadership level (principals and administrators).

They also have a shortage of highly qualified teachers in special education. Not enough special education teachers have science or math certification. How are other states dealing with the highly qualified provisions with science and math, and how are other states distributing these teachers?

They use eligibility criteria, which include specific methods like odds ratio tables, and the OSEP end user (WESTAT) formula, to check for disproportional representation. They use two calculations to show disproportional representation. They monitor for disproportionality every two years.

California

California also has its own academic performance index (API), and schools are graded on whether they meet this API. They feel that if schools make great progress on their API but don't meet AYP, it undermines the system. California also shared that some districts have designated "special campuses" where all students are in the special education program.

Ohio

Disproportionality—how much is due to inappropriate identification? How it's defined is really important. They suggest that maybe this could be a topic covered more in depth in the next meeting. They are interested in learning more about how the 15% rule is being applied in other states. One example mentioned was Maryland's statute requires that if disproportionality is discovered, 15% must be redirected.

Facilitated Discussion
Wrap up and Next Steps

The group expressed an interest in staying with the same basic topics of math and adding more information on science. Kansas, California, and Alabama expressed an interest in working together to develop plans and tools around these topics.

Early intervening services and response to intervention are new topics of focus that the group is interested in pursuing.

The group is interested in developing more online communication tools such as an online chat room or listserv. They would use this to regularly update each other and report on the progress of their work. Some said they would like to have an updated participants list sent out electronically so that they can create their own distribution lists. They are also interested in continuing the webinars.

It was suggested that the Access Center develop a page on their website that acts as a clearinghouse for materials on the topics covered in the meetings.

The group would not mind if the second information sharing community group attended their next fall meeting as long as the whole group can remain relatively small.

States would like to see state teams continue to build diversity of state agency members.

Some states would like more information on identifying more 3-tiered research/practices in math for grades 4 to 8.

The group requested that the 2006 meeting dates be set as soon as possible so that everyone can plan to attend.

Appendix

The Access Center and CCSSO Present: Third Annual State-to-State Information Sharing Community Meeting

Agenda for *October 3, 2005*

At the American Institutes for Research
1000 Thomas Jefferson St. NW, Washington DC

8:00–8:30—Registration & Breakfast

8:30–9:00—Welcome and Introduction by Judy Shanley of the Access Center & Julia Lara/Elaine Bonner-Tompkins of CCSSO and Introduction of Access Center Staff

9:00–10:00—Emerging Research of 3-Tier Model for Math by Diane Bryant, University of Texas

10:00–10:15—Break

10:15–11:15—Research-based Math Instructional Strategies by Joseph Gagnon, George Mason University

11:15–12:15—Facilitated State Sharing of Math Initiatives

12:15–1:15—Lunch and tour of Access Center website

1:15–1:45—Presentation by Alabama

1:45–2:00—Break

2:00–3:45—Introduction to Implications Wheel and Strategic Exploration Tool to Discuss Math and 3-Tier Model

3:45–4:00—Wrap-up

State-to-State Information Sharing Community Meeting

October 4, 2005

Agenda

8:00–8:30—Breakfast

8:30–9:00—Welcome and Overview of Day One by Judy Shanley of the Access Center and Elaine Bonner-Tompkins, CCSSO

9:00–10:00—School Reform by Steve Fleischman, Director of CSRQ Center

10:00–10:15—Break

10:15–10:45—Facilitated State Sharing regarding School Reform

10:45–11:45—Progress Monitoring and Math by Pam Stecker, Clemson University

11:45–12:15—Facilitated State Sharing regarding Progress Monitoring

12:15–1:30—Lunch with Presentation on Collaboration between Information Sharing Community and IDEA Partnership by Joanne Cashman

1:30–2:00—Presentation by California

2:00–2:15—Break

2:15–3:00—Facilitation of Implications Wheel and Strategic Exploration Tool to Discuss School Reform or Progress Monitoring

3:00–3:30—Next Steps and Wrap Up

State-To-State Information Sharing Community

Meeting Attendees
October 3 and 4, 2005
Washington, DC

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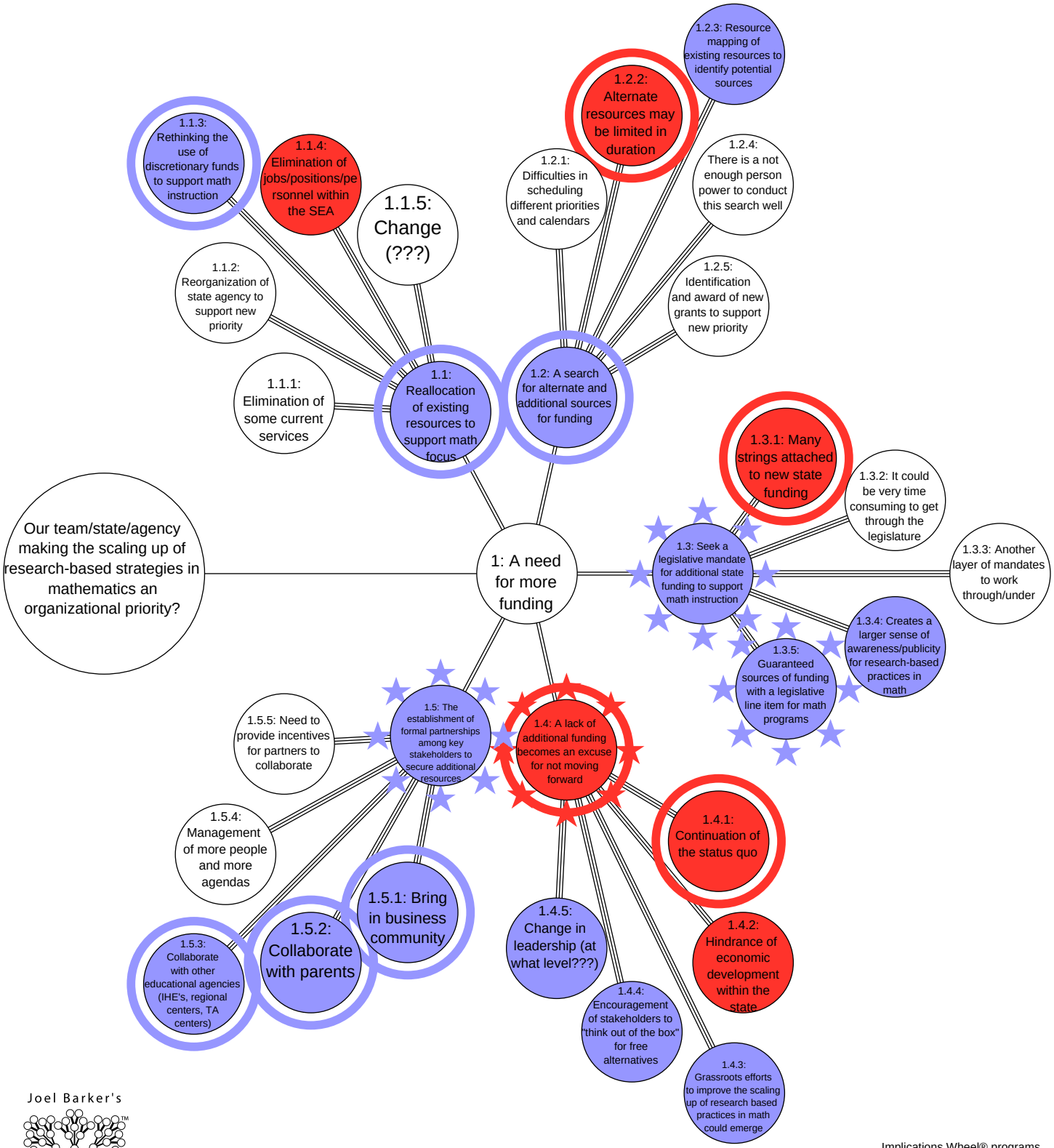
Math I-Wheel

Scoring Point of View: state education agency

ONE POSSIBILITY IS...



Joel Barker's IMPLICATIONS WHEEL®

Math I-Wheel

Scoring Point of View: state education agency

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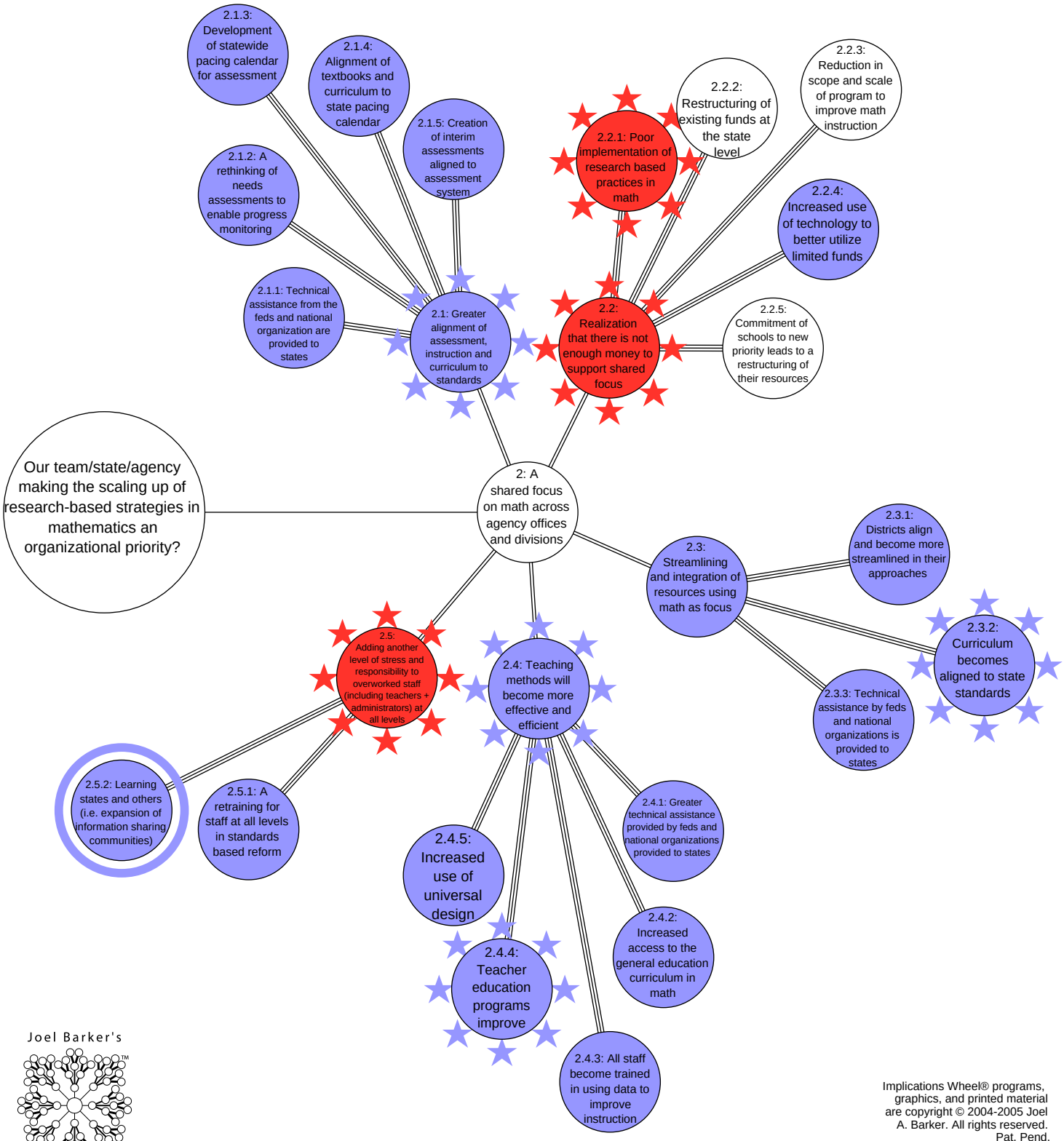

Joel Barker's IMPLICATIONS WHEEL®

Math I-Wheel

Scoring Point of View: state education agency

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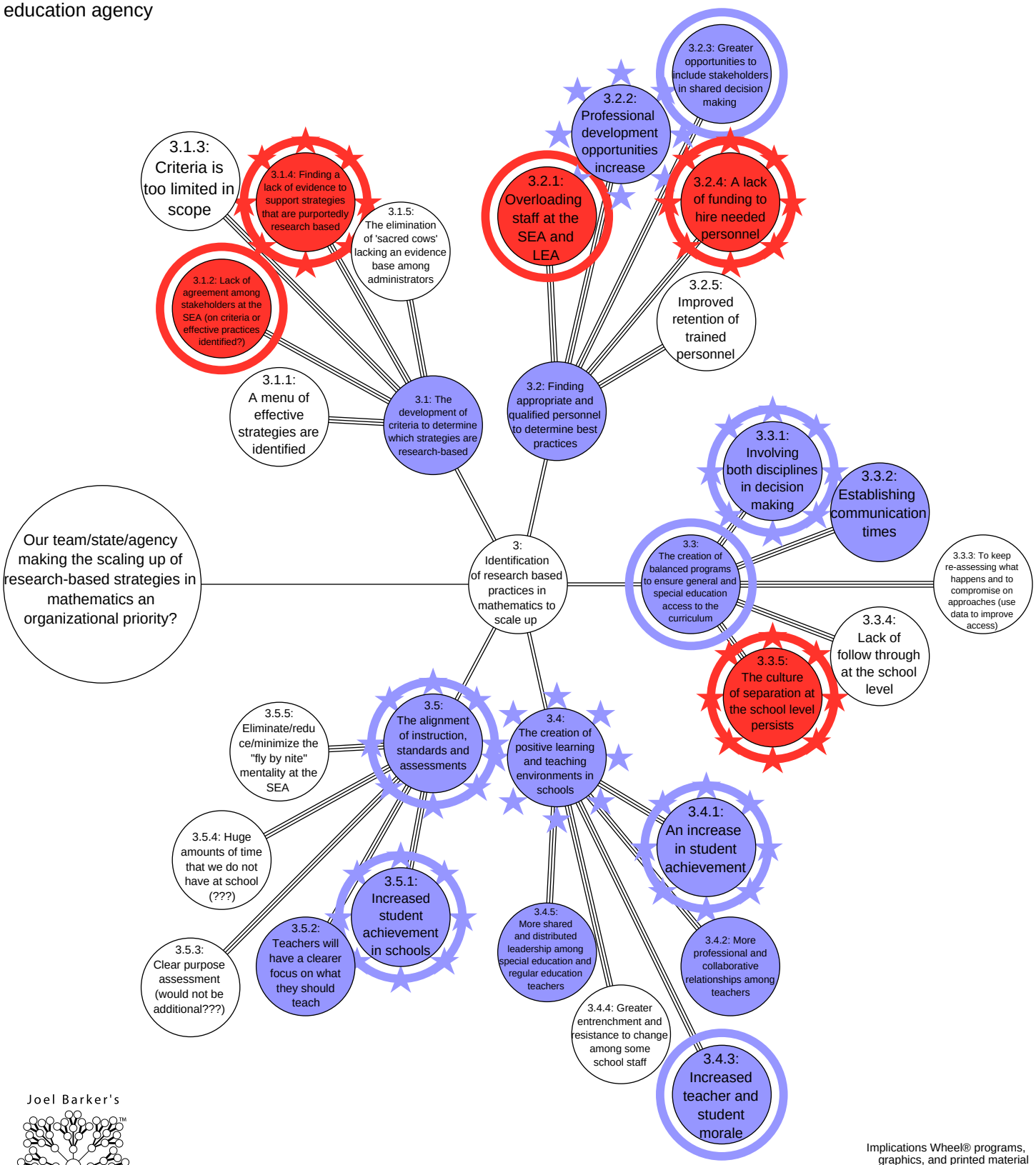

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Math I-Wheel

Scoring Point of View: state education agency

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