

What Works Clearinghouse

Response to Intervention in Early Reading and Mathematics: Moving Evidence on What Works into Practice

Event Transcript – Wednesday, June 10, 2009



Opening Remarks

Mark Dynarski, vice president at Mathematica Policy Research and director of the What Works Clearinghouse

Scott Cody, senior researcher at Mathematica Policy Research and deputy director of the What Works Clearinghouse

Panel 1: What Works: Response to Intervention in Reading

Presenter:

Russell Gersten, executive director, Instructional Research Group

Panelists:

Joseph Dimino, senior research associate, Instructional Research Group

Sharon Vaughn, special education researcher and RtI expert

Larry Wexler, Director of Research to Practice Division, Office of Special Education Programs (OSEP)

Patricia Fege, Coordinator for Language Arts, Fairfax County, VA

Moderated by:

Kathleen Whitmire, director, RtI Action Network

Panel 2: What Works: Response to Intervention in Math

Presenter:

Russell Gersten, executive director, Instructional Research Group

Panelists:

Karen Karp, professor, University of Louisville and board member, NCTM

Deborah Ziegler, Assistant Executive Director of Advocacy and Policy Services, Council for Exceptional Children

Karen Cheser, Assistant Superintendent, Boone County Schools, KY

Judith Russ (invited), Mathematics Curriculum Supervisor, Prince Georges County, MD

Moderated by:

James Wendorf, executive director, National Center for Learning Disabilities

Closing Remarks

Mark Dynarski, vice president at Mathematica Policy Research and director of the What Works Clearinghouse

Phoebe Cottingham, Commissioner, National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences

**RESPONSE TO INTERVENTION
IN EARLY READING AND MATHEMATICS
Moving Evidence on What Works into Practice**

OPENING REMARKS

Mark Dynarski

Good afternoon to everyone. I want to welcome you to this forum about Response to Intervention in Reading and Math. I'm Mark Dynarski with the What Works Clearinghouse and Mathematica Policy Research. The event is sponsored by the Institute for Education Science. I do want to welcome in particular two individuals. One is Phoebe Cottingham, the Commissioner for Evaluation within the Institute. Thanks very much. The What Works Clearinghouse basically operates as an institute entity and she's been extraordinarily supportive. I also want to welcome John Easton, who recently became the Director of the Institute for Education Sciences as of June 1. Thank you, John. So in the interest of becoming more familiar with the kind of work that the Institute is doing, John stopped by and we appreciate that.

Today's event is about the Response to Intervention that has been growing as a movement for at least ten years. The What Works Clearinghouse early on recognized its formidable growth, and we want to talk a little bit more later with Scott Cody about the practice guides and why it made so much sense to do a practice guide. But let me just mention a little bit about the Clearinghouse itself, which is essentially an effort to bring evidence to educators. It's really unique in so many respects. It's based on a set of very simple principles. One is that it's very thorough. When we undertake a review of the research, no stone is left unturned. We go back, for nearly all of our work, at least

20 years, and in so doing we uncover virtually every imaginable form of research on whatever we're looking at and we take a look at it. We actually read it. And over the course of that, through this exhaustive process, we amass about as complete a view of our topic as library science enables you to do basically. We then use transparent standards, when we're assessing our evidence. The standards are posted on the web – it's all in a handbook – and each of these pieces of research is reviewed according to the exact same standards. And researchers will and often do disagree about the exact standard that they would employ versus others. However, all the different research is being viewed exactly the same by the Clearinghouse, so this consistency is a very key virtue.

It's objective. We don't actually recommend that educators purchase products. We don't recommend that they follow the evidence. It is really up to them at a point to decide that this evidence either is or isn't decisive for them, but we basically pretty much stick with the evidence. And it's peer reviewed. All of the work that we do for the Clearinghouse follows the longstanding scientific principle that anonymous peer reviewers examine the work and make comments, and then we need to revise the reports in response to these comments and this has improved the quality of the work time and again.

Currently we have looked at research. The Clearinghouse has been operating about five or so years, six years, and it continues to expand in its productivity. There's now over 100 different reports about interventions on its website and more are coming. The topics include – and I'm reading a list here – reading, math, English language learning, early childhood education, dropout prevention, character education. We've just

last week released a report in a brand new area, adolescent literacy, which has become a very sharp concern, and we are also adding a significant expansion of topic areas in special education, including learning disabilities at the elementary school level, at the early childhood level and behavior. Autism will soon be included in that range as well and there are other topics that we will add over time.

Our first set of reports were intervention reports, which looked at specific kinds of approaches to handling various kinds of educational issues. And about three years ago, with the energy of Russ Whitehurst, who was then the Director of the Institute, the What Works Clearinghouse began creating what we now know is a practice guide, because the idea is that practice guides really take the evidence and they add a very important dimension to the evidence, which is they say, "Here's what a panel of experts recommends that educators actually do." So that key quality is that the practices are actionable and, in fact, actionable becomes a significant dimension of the discussion of practice guides, as Scott will talk about.

I want to let Scott have the podium here, but I just want to mention that the example of moving from intervention reports to practice guides is part of a trend of trying to move the Clearinghouse towards educators. And so we are currently considering other kinds of ways to bring evidence to educators through shorter topics, faster, responding more quickly to some of the emerging issues of the day. Certainly, for example, one clear urgent issue of the day is the very significant requirement to spend extraordinary amounts of stimulus funding. So the Clearinghouse we hope will grapple with the issue of how one could use evidence in order to target well the stimulus spending.

I do want to mention one crucial housekeeping issue. This is being videotaped, so there will be audience question and answer with each of our panels, but this is a public event and we hope to post it on the What Works Clearinghouse website. So we will have two panels, one on reading first. No, I'm sorry. That's not what I meant. The first panel will be about reading. The audience would be a lot larger if it was. And so the first one will be about reading and then we'll have a short break, followed by a transition to an audience about the Response to Intervention in math. I do want to point out one thing. We have both of these practice guides over here on this table for you to take with you. They look sufficiently alike that one might think there's really only one practice guide there, but I encourage you to take both of them. So what we thought would make sense to do is Scott Cody, Deputy Director of the What's Works Clearinghouse, will talk next about how we create practice guides, because the process has quite a lot of structure to it. And then from there, we will ask Russell Gersten, who is the chair of both of these panels, to talk a little bit about the recommendations which emerge from the practice guides. Then we'll move to a moderated discussion with our panels.

So thank you very much. Let me turn the floor over to Scott Cody of Mathematica.

Scott Cody, Mathematica

Great, thanks. I'm actually going to keep my comments fairly brief, so that we can get into the substance of the discussion. After having witnessed the amount of effort and the amount of thought that the two panels that developed these two practice guides put into developing them, I just have to say I'm very excited to be here today around this

event. I think these are great practice guides. Practice guides in general are proving to be very popular among educators. They're popular because they bring evidence to practice and they do it in a way that's very accessible. We know they're popular from just tracking the number of downloads that we see of these guides off of our website. We also know that they're popular from the comments that we get from educators who read and use our guides. And in recent months, there's been a series of events where panelists from our guides are actually going out into local communities, talking to audiences of 50 to 150 educators, actually talking about how to adopt the recommendations in the different What Works Clearinghouse practice guides, and these events have been incredibly popular, incredibly effective. We've done 25 effectively this year and there's many more that are planned in the coming months. So in general, practice guides are a popular product of the Clearinghouse.

These two guides on Response to Intervention, which have been out for a relatively short amount of time, are trending to be probably our most popular practice guides, and that's because they're coming out at a time when Response to Intervention is being used increasingly frequently in schools throughout the country and educators are looking for, you know, teachers are looking for very practical concrete advice on these practices.

Quickly on how we develop practice guides. Practice guides really merge a systematic review of the research with the expertise of a panel of researchers and practitioners. The systemic review includes this critical assessment of the quality of the research, and the panelists bring their experience, not only interpreting research findings, but their experience with instruction in everyday real-world settings, and they

turn to the research for research-based, evidence-based practices that they put into the practice guides. The process that we use for developing practice guides is modeled after what's done in the medical field, where practice guides are developed to give concrete research-based recommendations to physicians and other medical practitioners. For these two guides, as Mark said, we had separate panels, both of them chaired by Russell Gersten. Each panel had experts, research experts, researchers with expertise in instruction, with expertise in assessment, and they also had practitioners who are using Response to Intervention practices in their day-to-day lives. Having sat in on all of the panel meetings, I can say that the meetings, that the panels were great. The meetings were everything you'd want them to be – lots of lively discussions of what conclusions can we really draw from this body of research, from these studies, and how can we take what these studies looked at and translate them into practical actionable recommendations that teachers are going to find useful?

So the panel discussions were great, and for each of these guides individually our staff reviewed literally hundreds of studies, looking at each of these studies, reviewing them and assessing the quality against the Clearinghouse standards. The panel then turned to these reviews of the studies in this area to identify evidence-based practices, but also to rate the strength of the research support underlying all of the recommendations and each of the recommendations in the guide. And so when you look at the guides, you will see that each recommendation has a rating of strong research support, or moderate research support or low research support, and in the end I think we have two guides that are very practical. They provide very specific concrete advice to teachers and they make this explicit linkage to the research support and

exactly how much research is supporting each of the guides. So that's my quick introduction to practice guides and how these two guides came together.

I'm going to turn it over now to Russell, who's going to talk about the first of the two practice guides, the one in Response to Intervention for Reading. And then when Russell's done, Kathleen Whitmire, the Director of the RTI Action Network, is going to moderate the panel discussion about the recommendations in this guide. And then after that, after the short break, Russell again is going to talk about the guide on Response to Intervention for Math, and that's going to be followed by a moderated discussion by James Wendorf, the Executive Director of the National Center for Learning Disabilities.

WHAT WORKS READING

Russell Gersten

Our goal is really just to give you a teaser, is all we could do, and what I'm going to try to hit hard is this level of evidence concept, because I think that a lot of the material here, in reading, won't be brand new to people. But in terms of how we thought through the level of evidence, some of that will be new. Before I start, I want to say the interesting tidbit about the cover is the student is reading a book in Russian and learning how to read with the scholarly-looking gentleman in Russian. But unless your vision is 20-5 or you blow it up, you would not know that. These are the panelists and you could read about – their bios are in the guide and, as you can see, Joe is one of the seven of us. I'm going to do the first recommendation and then I'll come back for the wrap up and we're each going to just do tidbits of each of them.

This is no surprise. I think you are all familiar enough about Response to Intervention to know the universal screening is that key part of it. It comes from public health and screening is essential. And you'll notice the level of evidence is moderate here, and that was a kind of a prolonged, but very interesting, discussion and analysis, especially with our measurement expert in the group, Don Compton, and myself and some of the other panelists. The basic sense is this, that we have things for young children, and our focus in this guide is only K-2, that can reasonably predict kids who are likely to have trouble in learning how to read. There are two problems with them. One is in kindergarten in particular, and even at the beginning of first grade, you tend to get a lot of false positives, a lot of students who the screening measures say, "This guy is going to struggle learning how to read," and yet when they're given nothing, they do fine. The reason many of us believe is because it's not a very level playing field entering kindergarten. Some kids learn a lot at home, learn a lot in Head Start or preschool. Others, this whole world is new, so they have to learn what schooling is about and all. So a limit to the screening measure, and this, by the way, is true in every line of work, that we don't have perfect screening measures. We do have efficient measures. We kind of know what to measure and we spell that out. But they're going to hit many more kids, and schools and districts and states need to be aware of the potential waste of resources, which is a little bit what RTI is trying to catch. Kids that start to progress really quickly don't need extra help.

So we know that and also we will miss some students, or some students with reading problems don't emerge 'til second, third and fourth grade. We're beginning to learn more about that and how to measure receptive language, and that's the key

mentioned here. We found five very strong correlational studies, and only recently have people begun to do what screening research of the highest caliber does, which is look at the false positives and false negatives, and really try to balance and titrate those. And the topics are going to be a surprise to no one who's been in the field at all. And one of the things that this came from, my experience working with schools, presenting at state, dare I say, Reading First conferences and other things is that there tends to be this religious idea if the benchmark score is 80, a child with a score of 81 will get no help whatsoever. A child with a score of 79 will get a semester of tutoring. That is the final verdict. And anyone who knows anything about measurement knows we have measurement error. One simple way to address it is simply to retest the kids two days later or to just follow up a little bit, and this is a stupid kind of waste and a source of anxiety, to parents and teachers and everybody, and one thing that we hope we can inform the field with. So I'm just going to do what; Joe and I are just going to do tidbits for each of them.

And the roadblocks, I'll just tell you the evolution of roadblocks because I've done three practice guides. Initially, when I was trying to make everything actionable and concrete, and I always told the staff that I worked with, "We have to write this like the driver's manual you get when you're 15. Do this, don't do this, this is why," and I was going a little crazy and feeling so preachy, so I thought it would be kind of cute to say, "Well, some people don't do this, so here's how to remedy it." So that's one reason the roadblocks seem to resonate very well. Now I'll turn things over to Joe.

Joseph Dimino

All right. I'm doing recommendations 2, 3 and 5 and Russell will come back and do four because that's progress monitoring, which is for tier 2 and tier 3. So the recommendation states provide differentiated reading instruction for all students, based on assessment of students' current reading levels. And the purpose of this recommendation is to address classroom reading instruction, as it relates to the use of assessment data to guide differentiated instruction. And there was; the evidence unfortunately is low. There was one study, a descriptive correlational study and I'll quickly tell you about it. It was a computer web-based program. Student scores were placed in the program, and grouping recommendations and instructional recommendations were made for the teacher, and the reading progress of the teachers who implemented it with fidelity obviously was higher than those that didn't.

And I would just quickly like to make the clarification of what we're talking about, when we talk about assessment data in tier 1. We're talking about the core reading program has unit tests. We could use those. We could use work samples. When a teacher is listening to a child read, she is taking or he is taking notes, noticing that perhaps the child is having trouble with high-frequency words or is unable to answer a question whose response is not directly stated in the text. So that's the type of information that we're looking for in tier 1. The groups are flexible. As soon as the students master that skill, they're regrouped, okay, which is different from tier 2 instruction.

This is tier 3, to provide intensive systematic instruction on up to three foundational reading skills in small groups to students that score below the benchmark

on universal screening. Typically these groups meet between three to five times per week and 20 to 40 minutes. The evidence is strong. We had 11 studies and the strongest effects were in phonemic awareness, decoding and fluency. There isn't much evidence in the effects of vocabulary and comprehension yet, but we're hoping that with further research that we're going to have more information on vocabulary and comprehension. Seven of the 11 studies had significant effects in the three, actually, all of the areas of reading. And the 7 studies of the 11 that had significant effects, they all used explicit instruction. So when we're talking about explicit instruction, we actually have a video, a very short clip of what explicit instruction is and I'm going to show it right now. But I do publicly want to thank Dr. Sharon Vaughn , who is Executive Director of the Meadows Center for letting us use this video clip to show you what explicit instruction is. Now let's see if I can get to work this.

VIDEO CLP

I'm going to stop there because we're running out of time. I'm just going to quickly talk about recommendation 5, and recommendation 5 says provide intensive instruction daily that promotes development of various components of reading proficiency to students who show minimal progress after reasonable time in tier 2 small-group instruction. So this is the tier 3. Unfortunately, the evidence is low. There were a small number, 5 quality studies, but they didn't lead to any significant effects. And I would like to say there is hope, because I understand that Sharon Vaughn is doing a lot of research in tier 3, and I know that we're going to get some questions answered in the future. I put you on the spot there, didn't I?

Russell Gersten

Just to wrap things up, the last recommendation about progress monitoring will be a surprise to many. For progress monitoring of students in tier 2, the group immediately was very easy, thought it would be a good idea, because the whole idea is seeing if kids are responding to this supplemental instruction. There was no experimental evidence, no high-quality evidence to support that whatsoever. Most – not most – every single research study that monitored progress of children in these experiments, which were well-trained, interventionist, using these type of very, you know, well thought out – I call the pace there deliberate pace. It's paced so that kids who need extra time can learn how to read. None of those studies monitored the progress of kids and used it to make instructional decisions, using the kind of measures that are used throughout the country. They're kind of either the AIMSweb type of time measure or occasionally the state benchmark test. Neither were done. Most of them had daily or weekly unit tests.

Now the reason that's important is what we're telling people to do, and what school psychologists like, and what was at least done in these interventions are dissonant with each other. It doesn't mean that another approach is bad. We think it's a great idea because you're going to have your false positives, you're going to have some kids who really need additional support. But basically that's why this, going through the evidence we cut away the consensus, the easy consensus of six experts. And I'll leave things at that and turn things over to the ring panel.

Kathleen Whitmire

Thank you, Russell and Joe. I'm Kathleen Whitmire. I'm the Director of the RTI Action Network, which is a privately-funded program of the National Center for Learning Disabilities. Our goal is to work with frontline educators and families at the local level to promote effective implementation of Response to Intervention, as a means of helping all students be successful. We're committed to providing quality informational resources and training, as well as opportunities for implementers to connect with leading experts and with one another. Our work is supported by our partnerships with 25 national education associations and federally-funded centers, which has made it possible for us to reach out to 1.7 million educators and families in over 165 countries, in just the first year after launching our website, rtinetwork.org.

As we know, there is certainly evidence of the effectiveness of RTI in identifying and supporting struggling learners within the general education classroom and tiered instruction, in order to build the foundational literacy skills that they need for academic success. However, implementation of the systemic change that's needed to carry out effective RTI programs is challenging for many schools, as they struggle with resource allocation, staff training and misconceptions that RTI belongs to special education. Clear and relevant guidance is needed, if our nation's schools are to realize the potential of RTI for student success.

The practice guide on reading in RTI is one of the resources we're glad to promote to provide just that guidance. Capably led by Russell Gersten, the panel that developed the guide included Dave Tilley from the Heartland Area Education Agency, who brought to the table the realities of implementation in the field. The guide gives a

clear compilation of evidence leading to recommendations and also includes roadblocks, suggested approaches and helpful action steps linked to those recommendations. It also emphasizes the need for ongoing professional development in mentoring. This comprehensive format offers a useful tool to states and districts, as they move ahead with their RTI plans.

Panelists:

KW: = Kathleen Whitmire

SV: = Sharon Vaughn

LW: = Larry Wexler

PF: = Patricia Fege

R: = Audience Respondents

KW: So let's now turn to our first panel for their thoughts on RTI and early reading. Our panelists are Sharon Vaughn, Regents Professor at the University of Texas, Larry Wexler, Director of the Research to Practice Division at OSEP, and Patricia Fege, Coordinator for Language Arts for the Fairfax County public schools in nearby Virginia. Sharon, let's begin with you. You're one of the most prominent researchers in special education and Response to Intervention. To start us off, could you give us a brief overview of how RTI for Reading is designed to function in the early grades?

SV: Well, thank you, Kathy, for the introduction, and thank all of you and good afternoon. That's a big question and I have a limited amount of time, so let me try to frame it in a way that will be useful to the audience. Response to Intervention isn't a program. Response to Intervention is a framework. It's a way of thinking about preventing reading problems. And later on it's a way of thinking about preventing math problems, but that's for the next panel. Basically the general idea is that what we want

to do is develop the best quality research-based instruction in reading from the first day children come to school 'til they finish. And the important focus on that classroom instruction, often referred to as tier 1, is essential, and that is why I think Kathleen wisely said it is not a special education initiative. It is an education initiative.

Secondly, very important to this framework is that there isn't just one way to do Response to Intervention. There are a lot of ways. And in the states and in the context of school districts, you will see these critical elements that we're talking about implemented in ways that respond to the instructional needs of those contexts. It's important to understand that very critical to the idea of Response to Intervention is that we have a way of determining who it is that needs intervention. So even if we provide this highly-effective tier-1 instruction that we all value, we know we have to have a way very early on to determine who needs additional support, and that is often done by universal screening, and by universal screening we mean as early as kindergarten, maybe even in preschool, for those of you that have preschool. But certainly through the early grades, we determine those students who meet criteria typically set at the district or state level for needing additional instruction in reading. Early on, these students then are provided what we think of as a tier-2 or supplemental intervention, in which they are provided additional instruction to help support their reading needs, knowing that the instruction they get in the classroom is not sufficient.

Many of these students provided this supplemental instruction respond very positively. In addition to their continued instruction in the classroom – in other words, it doesn't replace that instruction – they respond positively and that is sufficient. Some of them may need additional instruction later. So they may get it in kindergarten, they

respond well and they get it again in second grade. Because we use universal screening, we can keep tabs on these students and we know when they need this additional instruction. There will also be students for whom this additional instruction is not sufficient. That's why we call it Response to Intervention. The response is lower than what we would expect, based on typical response to these interventions, and they need more intensive interventions. We refer to these intensive interventions as tier 3 or tertiary-type interventions. They're more intensive, they last longer, they're more responsive to the needs of students. In some states, this tertiary or tier-3 instruction is special education. In some states, they provide additional tiers, like tier 4, and they often have that be special education. That variation is determined at the state or district level. So basically it's a framework for providing early instruction and intervention to students most in need. It can also be used as a data source for identifying students with learning disabilities. So when students don't respond to intervention, it is conceivable that districts and states will allow that data to be used in their decision-making process.

KW: Thank you. I don't know if I could've summarized it that concisely, so thank you for doing that for us. Now, could you briefly summarize for us how RTI was conceived and developed and what is the current research landscape regarding RTI?

SV: I think I get about 90 seconds for this one. I would like about 90 minutes. But let me briefly frame it for you, with respect to a public health model. And if you think about public health model of prevention, which in the United States was launched right around the turn of the century, the idea of it was that poor health was associated with poor outcomes nationally. It was associated with poverty and health problems. And so if we have a universal frame or model for preventing health problems and have a

resource for treating health problems that's universal, we'll be more successful. And basically Response to Intervention is very similar. If you look at the characteristics of an effective public health model, basically you define what the health problem is, or in our case you defined what the reading problem is. You identify risk factors that are associated with the problem, with the health problem, or in our case with the reading problem. You develop and you test interventions in experimental and controlled ways, in order to prevent the problem, and then you scale those up, very much like what we want to do with an RTI approach, and you implement these interventions to improve the overall health of the population, and, of course, the goal of RTI would be that this very research-based approaches to reading instruction would be implemented in classroom settings, as well as in interventions. And then the fifth component of a preventative health model is that these interventions are monitored, and we assess their effectiveness over time and we would consider that a critical part of RTI.

So basically, if you think about public health, public health has primary intervention, and with primary intervention it's really implemented to avoid or prevent occurrence of any illness or injury. So we do primary interventions by having regular checkups. We have our blood pressure monitored. Women have a very unpleasant monitoring that we have to do, and men I understand have one, too. I'm unfamiliar with it, but all of these are means of having ongoing assessment to put in place primary interventions that make us a healthier nation. Very similarly, we see this as a value in an educational setting. Secondary interventions are what I referred to earlier as tier 2, or when we implement interventions to minimize the illness. So we quickly come in and the type of intervention we provide depends on the illness we have, and we would want that

very same kind of secondary intervention to be reflected in our school settings. And then, of course, in a health model, we know we have tertiary interventions and they are implemented to minimize disability. They provide medical care, rehab services, much more extensive and intensive services, and we would expect that to occur in our school settings very responsibly and very quickly, in order to provide the kind of more intensive and more extensive interventions, so they're tailored to meet the special needs of students.

So as a researcher, and we always believe that there's more research needed – I mean if you ever ask a researcher whether anything should be done right now, most of them would pause and have their on-the-one-hand-on-the-other-hand comment. But the nice thing about Response to Intervention is that as a framework, it allows us to continue to pour our new research findings in and allows us to make adjustments and responses as we go along.

KW: Thank you. And your third question. How can practitioners effectively integrate the many elements of RTI into an effective system?

SV: Well, I've been very fortunate in the last five to ten years to work closely with teachers and schools in, as they say, real classrooms with real kids. And the privilege of it all is it's a lot like being a grandparent. Whenever it is that they ask you to do something you don't want, you can leave. And I have recognized by doing this that it's a very difficult job. Anyone who thinks that Response to Intervention is easy to implement and is going to make everyone's life a lot easier, it won't happen in the beginning. It takes time. But in all cases where schools have been implementing Response to Intervention and I've had the opportunity to communicate with them, they

say it's worth it. A couple of things that they also say to me about implementation, and many of these are represented in the practice guide – I think the practice guide is an excellent resource for looking at how teachers, schools and school leaders might make these research practices come to life in their classes – but one of the things I consistently hear is you need a school leader or an otherwise key person to take the RTI initiative in their hand and say, “I’m going to make this work in my school. I’m going to be the person, the go-to person on that.” So be thinking a little bit about who that might be.

The second thing I hear is that scheduling is a nightmare. And from having implemented RTI in schools, you know it would be a lot easier to manage the transportation system in New York City than to figure out how to do all of the scheduling related to tiers 2 and 3 and various progress monitoring, etcetera. So scheduling is an issue. It's a real practical issue that schools need to get their hands around and think about how they'll do that. And once they get that organized, it seems things seem to flow a lot better.

The third issue that comes up is that schools need to figure out how they will implement intervention and who will be doing it, and schools have been very creative and resourceful in doing this. Some schools do things they call a tea time, where they literally have 45 minutes a day, and every school personnel is involved in providing interventions, and they're trained and supervised, and it's one solution that schools have used. Other solutions they've used is that they use professionals. Some schools use paraprofessionals(?). Some schools use Title I support, etcetera. So there's a

variety of ways in which schools need to think about how these interventions will be implemented.

And then the last thing I want to say is don't forget the data, because that should be helping schools make decisions, enter and exit students, and influence whether or not the interventions are working as effectively as they need for them to be.

KW: Sharon, thank you for your wise comments. Let's move now to Larry. Larry, OSEP is dedicated to providing leadership and financial support to assist states and local districts in developing effective strategies in special education. Can you tell us about the federal government's role in promoting RTI strategies?

LW: Thank you, Kathleen. Before I start, I just want to thank IES for this kind invitation to come here. OSEP manages about \$11-1/2 billion in formula grants, which was really \$23 billion this year, with the Recovery Act, and we manage about \$270 million in discretionary funds. And the discretionary funds focus on providing resources around technical assistance, personal preparation and professional development, and the practice guides have been terrific in terms of providing research-based practices that can be disseminated to certainly our stakeholders, which are the same stakeholders as everyone else here. So they've been very value added, and we appreciate it and we thank IES for that.

I want to start out by saying that I would reference you to the comments to the federal regs, the IDEA regs. If you go to the regs themselves, you'll find about the first 300 pages are responses to public comments, and within those comments you find a lot of federal policy articulated, especially around Response to Intervention. Let's remember that the RTI and regulations developed in the context of the identification of

learning disabilities. 300.307 states that the state must permit the use of a process based on the child's response to scientific research-based instruction. Now the question becomes, and that's a little bit – so that was the limit within the federal regs, but how did it expand? And if you look at the committee report, the House and Senate committee that accompanied the reauthorization bills, it reflects their concern with models of identification of specific learning disabilities that use IQ tests and their recognition that there was a growing body of scientific research that supports methods such as Response to Intervention, and it was in the committee report that they first articulated that there was a kind of framework that was called Response to Intervention, that this more accurately distinguishes between children who truly have specific learning disabilities from those whose learning disabilities could be resolved with more specific scientifically-based general education intervention. And similarly, around the, really predating the regs, the President's Commission on Excellence in Special Education recommended the use of the same type of RTI approach for the identification of learning disabilities.

Our position has been that RTI strategies are tools that enable educators to target instructional interventions to children's areas of specific need, as soon as those needs become apparent, and I think what you'll hear from me will be very consistent to what you've heard from Russell and from Sharon. We see it as an instructional framework and I think framework is the key word there. While the department doesn't subscribe to a particular RTI model, we recognize the poor characteristics that underpin RTI are – and this is not anything you haven't heard before – students receive high-quality research-based instruction in the general education setting, that there's

continuous monitoring of student progress, that all students are screened for academic and behavioral problems, and that multiple levels or tiers of instruction that are progressively more intense, based on the student's response to intervention, so their response to instruction.

So what have we been doing to support or promote RTI? I think the first thing is we'll reference 300.226 in the regs, which is early intervening services. And I don't know how familiar you are with early intervening services, but an LEA may not use more than 15% of the amount the LEA receives under Part B for any fiscal year to develop and implement coordinated early intervening services for students in kindergarten through grade 12, who are currently not identified. These are kids who are not identified as needing special education or related services. This is not about children with disabilities, but who need additional academic and behavioral support to succeed in a general education environment. So what we're talking about is that any LEA with – there's all sorts of maintenance of efforts restrictions on this and we won't get into that – but any LEA can use 15% of its Part B IDEA funds to support work with kids who are not identified as disabled, so they can succeed in the general education environment.

So how does that translate to RTI? What LEAs could use IDEA Part B funds, including the early intervening services funds, along with Title I and other funds, fiscal stabilization funds, things like that, and state and local funds, they have to use the money consistent with the program requirements to implement a school-wide RTI framework. So what we're talking about is a scenario could be if you're in a 3-tier model, you could use local, state and some Title I for Tier 1, for early intervening services and Title I for tier 2. Remember, early intervening services monies cannot be used for kids

with disabilities. And for tier 3, you could use, if tier 3 in the model is special education, you could use IDEA Part B dollars. So that's a large sum. I realize 15% of potentially \$22 or \$23 billion is a great deal of money. So there is money out there, but the dollars have to be used consistent with the program requirements.

Other support that we've offered, we fund a National Center on Response to Intervention. That's a five-year, \$14 million investment to provide technical assistance to states. We fund the Irish Center for Training Enhancements, which has developed in conjunction with the Tennessee State Personnel Development Grant. RTI modules, these are free to the public, a whole series of modules that are training modules. We funded the Center on Progress Monitoring, which looked at progress-monitoring tools. The Center on Instruction is jointly funded by OSEP and the Office of Elementary and Secondary Education, and certainly they've developed a great deal of materials. And we invested the State Personnel Development Grant, which has individual states have done statewide RTI scale-ups.

KW: One more question for you, Larry. Often RTI is seen as a special education initiative. Please summarize for us why you think this misconception exists and what policymakers and practitioners can do to dispel it.

LW: Thank you. Let me preface this by saying that 56% of students with disabilities spend 80% or more of their day in general education. 80% of kids with disabilities spend 40% or more of their day in general education. So we're really talking about serving the vast, vast majority of students with disability in the general education environment, so this is why certainly we support RTI as a general education initiative.

Why is it seen as a special education initiative? First of all, because it was identified as part of the learning disabilities identification process, so that kind of set a stage for that. The research base for RTI has been essentially established by special educators, one of whom is sitting to my right and a number in the room, so it kind of gets perceived as a special education initiative. Also, the implementation work, the early implementation work on RTI was at the local level there were large-scale implementations in Iowa, Minneapolis, Mississippi, Louisiana and Arizona, and these were special education initiatives. While it included general education students, it generally was special education done.

What can we do or what have we done to kind of dispel the fact that RTI is not a special education initiative? OSEP worked with the National Association of Elementary School Principals to conduct the RTI Summit, which many of you may have attended. While we provided fiscal support to this effort, we were totally committed to this being represented as a general education initiative. The state teams that came had to have significant general education representation. We publicly speak of RTI as a framework for instruction that addresses the needs of all students, not just students with disabilities. We're collaborating with the Office of Elementary and Secondary Education on how we can legally coordinate funding streams to implement RTI. And another thing we do, we fund something called the Partnership Project, which is a partnership of the largest associations, professional associations, the AFT, the NEA, the principals, elementary, secondary. I could go down a list. There's about 35 of them. And we've supported the community of practice, a very effective community of practice, on RTI within that. And, again, that that's sponsored is while we may be funding it, it's seen as

a general education initiative, and our associations that we work with are very clear that it will never be successful unless it's perceived as general education.

KW: Thank you, Larry. In the interest of time, we're going to move to Patricia. Patricia, your district has been piloting efforts to institute RTI strategies in early reading. What was your experience in these first efforts and where did you experience the biggest challenges?

PF: I think I'm going to echo a lot of what has been previously said, but I'm going to echo it from the perspective of a general education person, and we have learned a lot. One of the things we learned is it is very wise to start small, and we've also learned that it's okay to start over. We have started over. And part of the starting over was listening to feedback from teachers and principals, because if they can't give you feedback and you don't use that feedback, a lot of effort is going into something that's not going to be used. The design, the framework and the interventions have to be doable. It can't be so convoluted that it is so unmanageable for a school to tackle. They have to see it as something that fits within the framework of the school, something that will help the school and something that they can do. And I think it's really crucial, and something that we've learned over the past several years, that it's important for this to be a partnership between general educators and special educators, and that partnership has to include two-way communication, and it also has to lead to valuing what each group has to offer. So each group has to see that the other has something valuable for them.

There are two big challenges. They both start with T. The first challenge is time. Time is just such a huge, huge challenge. Time is needed to plan and provide

professional development for administrators and teachers. We have learned you have to include school administrators – it's not enough just to have the teachers – and that the teachers have to include classroom teachers, special education teachers, teachers of English language learners, reading teachers, everybody that works with the students. And you know it's possible for teachers to graduate. Their undergraduate degree in general education can include as little as one or two courses in the teaching of reading, and that is not enough to help that teacher implement a high-quality instructional program for students, so that's why this is needed. Time is valuable and it's very difficult.

Somebody mentioned scheduling. It's hard to schedule time for professional development for teachers. In these days of high accountability, principals want their teachers in the classroom. They don't want them out of school. So when you take teachers out of school for professional development, it has to be of the very highest caliber, so that when they leave they say it was worth it. So it takes time to plan that and it takes time to do it, and time you mentioned is also a factor inside of the school. Teachers have increasingly large class sizes, so it's always a struggle with enough time to provide good instruction and to figure out how you're going to work with interventions and differentiation. So that's an issue. We have been trying to have a lot of this happen inside of the classroom, so that time isn't spent with children going off to another location. That also makes children feel different. And when I was teaching, in the hall, you know, children are going down to another room, and I saw this group of children and they said, "Oh, Mrs. Fege, we're taking the long cut." Well, you know, that happens. You send children unsupervised, they take all the detours. So we're trying to have it

inside the classroom, but that leads to scheduling issues. It leads to teachers sharing classroom space and working together, which takes time, but is a good thing in the end.

So time is one challenge. The other challenge is temptation or avoiding it, because our mailboxes are full of the latest and greatest something you can buy that is going to solve all your problems, the answer to the maiden's prayer, and it's not. So I think school districts have to avoid that temptation of purchasing something off the shelf that is – quote – “guaranteed” to work, because we found that that one-size approach doesn't work. And what works for one student may not work for another. What works for one group doesn't work for another. So time and temptation, things to avoid.

KW: Thank you. Second question. Please summarize for us your recommendations for districts hoping to develop RTI strategies for their schools.

PF: Again, this is an echo I think. I think school districts have to spend time building a solid core reading program, researching the qualities of good reading instruction and then using that, working with teams of teachers to develop criteria for what this is in the classroom, and not just what it is, but what does it look like, providing exemplars for teachers, so that they can see what it looks like. Something we've been working on is developing book rooms in every school, so that there are multilevel texts available for teachers to use and students to read. And the multilevel text – you mentioned this, too; somebody mentioned it – it is not enough to have that happen just in reading. When the child goes to read social studies or science material, they have to have material that's appropriate for them that they can read that's at their instructional reading level.

It's important to design professional learning opportunities for teachers and work with teachers to develop common assessments, to help teachers understand the importance of small-group instruction matched to student needs, so we're just not marching through the basal reading series. And when we have small-group instruction inside the classroom, teachers need to have highly-developed management techniques, so that chaos doesn't erupt, and they have to have assistance in designing learning activities for other students who are not involved in the small-group activity, so that there is practice, reading practice that is appropriate for those students.

KW: Thank you. Briefly, as a practitioner, how helpful do you find the recommendations in this practice guide?

PF: I thought the practice guide was very useful. The checklist at the beginning gave an overview of the whole practice guide. I thought that the practice guide provides helpful considerations for school districts. You said it provides guidance. It's a tool. It is not a prescriptive – first you do this, then you do this, then you do this. It doesn't tell you specifically what to think or what to do, but it tells you what to think about and what to think about doing. So I saw it as a model of a problem-solving process. If we want teachers to problem solve and think about what children need, we have to model that for them and I thought that's what this does, so it builds capacity in schools.

KW: Well, I certainly want to thank our panel for being tolerant and cooperative of a tight agenda on topics that I know you are very passionate about and committed to, so thank you for that. We do have just a few minutes for questions from the audience

and we have a microphone there. So if any audience members have a question, please raise your hand and we'll direct a microphone to you. One up here, please.

R: Thank you. My name is Eileen Rosenthal. I'm with a program called Quick Steps to Brilliance. But what I was wondering is when you talk about your universal assessment, is there a specific assessment that is used or are there multiple assessments that are used?

SV: I'm thinking you're talking about like a universal screening to find out who is behind, and there are a number of screening assessments or instruments that are available, and some states have even developed their own and some districts have developed their own. So there's a wide range of tools. And what people screen for often is what is predictive of reading problems in that grade. So what you would screen for at kindergarten would be different than what you would screen for in second grade, and then if you were doing RTI with older students, it would be different again. So there unfortunately isn't a one-word answer to that, but the good news is there's a range of screening tools available.

LW: And I'd add to that that the Response to Intervention Center has evaluated some screening tools and they are on their website across reliability validity and populations. There's a fairly large dashboard and that's rti4success.com – dot org.

KW: And it's the number 4, not spelled out four. Thank you for bringing that up.

LW: I was really close.

KW: A little help from your friends and we're going to get you there. Any other questions from the audience? There's one over here. Yes?

R: Hi. I'm Nancy Reder with the State Directors of Special Education. I don't know if I'm mixing apples and oranges here, so if I am you can just tell me to be quiet. I was just wondering, I was sitting here thinking that when you get beyond tier 1, and you've done universal screening and you've found a group of students who need more intensive intervention, if you can use, if there's a role for UDL or universally-designed materials and if that would help with those students, in terms of providing more intensive interventions for that group of students. Do you think that would help, in terms of interventions with them? Am I making sense?

LW: I think I would say that we should be thinking about using universal design for learning materials for all students at all times, that that's what we – I just got a Kindle. It has 16 fonts. It defines words. You can put notes in it, and a lot of things I have no concept what it can do. But there are all, you know, all children should have the opportunity to have their needs met and to have instruction differentiated within their own particular modes.

SV: I mean good universal design is established to benefit all and harm none. I mean that's the idea of universal design. I mean we have a ramp that lets us into a building because it provides great access to everyone. Right? And no one's harmed by it, but people in wheelchairs now can enter the building. When we have universal design and instruction, what we're trying to do, I think, is make sure that we benefit the largest number of individuals. So I think going along with Larry's comment, it makes sense to me that that would be something we would consider.

KW: Any other questions? Question back there, yes, please.

R: Hi. I'm Brook Lang(?). I'm a doctoral student at UNCG with Bill Burseck(?) and Marilyn Friend(?), and I'm curious to know in your experience working with longitudinal rollouts of RTI in schools, once the process is over, once the coaching coaches are gone, once staffs start to turn over, how do you maintain the fidelity of the implementation? And I know that's the big question.

PF: That's really problematic, and I'm coming from a school district where we have a large turnover of staff always, because many of our teachers are married to military, so we just have a large turnover, and that's something we've actually been discussing. How do we provide ongoing support? For one thing, we hope that the coaches aren't gone. We hope that schools develop their own capacity, so that they can continue coaching. It may not be the person who originally was the coach, but so that it becomes a way of thinking, not necessarily something new that we're doing.

R: I'm Karen Chester(?) and an assistant superintendent of a school district in Kentucky, and we feel like we've had a pretty strong model for RTI In reading for a few years, and have dramatically reduced our special ed referrals by 300%. Our problem is that once those students are referred, and we're using the Response to Intervention evidence to determine whether or not the child truly has a learning disability, we're having a hard time going beyond just professional judgment and subjective information. I mean we see our graphs. We know how many words the students are moving up and that sort of thing. What advice do you have for school districts and these teams in making those determinations?

SV: That's an excellent question and I am very comfortable saying you are not the only person with that question. There's a couple of options to consider, and I'm sure

I'm not covering the whole landscape when I give these options. One to consider is whether or not you also want to add to your decision-making standardized test, so that you know how a student performs relative to a standardized group. So to consider looking at a portfolio of really high-quality assessments, with high reliability and validity across the target areas, and we're talking about reading right now, so reading, that will give you greater confidence about how this student is performing relative to other students. So that would be one thing to consider. Another thing to think about is whether or not you want to look at how the pattern of placements and decision making diagnostically has occurred, both in your district, but maybe other districts in your state, to look at whether or not the pattern of performance is aligned with other decision making or out of line, so that you're really using data about who's getting identified for special education as a marker for determining whether or not the number of students you're identifying and the performance of those students is like other students. And then the third thing, and NCLD is here, and I would be negligent not to say this, but you really want to be sure that the role of the parents is integrated into that decision making from the beginning of the intervention and then throughout the process, and they certainly can tell you lots of things about how that student is performing. So those are three, and I'm sure there's many other options, but those are three that come to me.

LW: And I would refer you to the IDEA 2004 website. I think if you Google IDEA 2004, it gets you to Building the Legacy. There are a series of policy briefs there. One is on LD identification. And there is a frequently asked questions, which talks about a full and complete evaluation and what that might mean.

KW: I want to thank our panel again for your excellent insights and information. Thanks so much for being here, for being part of this. It is now time in the agenda for us to move to panel number two.

WHAT WORKS MATH

Russell Gersten

The math one is actually more complex for all kinds of reasons. There is a lot less research on interventions in math than in reading. But I think, like a lot of things, you get better by doing them. This was our third project and I realized that the way the reading panel chose to break things up – tier 1, tier 2, tier 3 – was not the best way to do it, because, first of all, we talk about how we're talking about multi-tiered interventions, and Dave Tilley kept stressing, in fact, he was guiding us into an infinite number of tiers. But basically the idea is it's a different way of thinking, so you do these boxes and treat these tiers as if they exist separate from one another. Also, in looking at the body of research, it doesn't break down easily into these tiers, because in an approximate way, many of the students who received tier 2 and/or tier 3 services would be the students with the diagnosis of learning disability, because there was no such thing in 1997 as a tier-3 intervention. Also because math is such a new and emerging area, we could really borrow across disciplines and be a little more creative. And I think the math one, which is probably going to be much less familiar to most of you, if you're like most of the educational profession, except for math educators, you'll notice that a lot of this is a lot newer. We had people from special ed school psychology. We also

had Sabella Beckman, who's a research mathematician at the University of Georgia, who basically teaches elementary teachers the math they need to know to understand what they're teaching, and the math beyond what they're teaching, which as we all know is a huge issue, and we had folks from Ed(?) Psych(?), and from Intervention Research and also someone from Montgomery County, who was a math coach and a valuable contributor.

This is the original charge for the practice guides, and because of the math one, we were really having to put together so many fragments I thought I'd go back to that. That was when Russ, well, under Russ Whitehurst's supervision I developed the very first one. He kept stressing that the idea wasn't just to come up with a half dozen or eight recommendations, but to try to come up with something that is coherent. And that was stressed beautifully by our last panelist, in terms of something that gives people things to think about, directions for thinking, for reviewing research, for asking questions, and that really was what we tried to do. And I can't tell you, getting academics to write this material, it's virtually impossible. They're always describing the details of the study. There's all the ifs, the whatever, so I basically let them help with rough drafts and that was about it, because this is tough. This is tough. This is the opposite way a researcher is trained to write – do this, don't do this, ba-ba-ba-da, yeah. So we were faced with a lot of challenges, people from disparate fields, and also the state of math intervention research. There was 'til recently very, very little experimental research, as well as unlike the field of reading, the math educational field, for whatever reasons, has avoided experimental designs like the plague. That has changed somewhat in the last four or five years, but it really created problems in our search.

These are the topics that we cover, because I really can just give you folks in the seven minutes left a snapshot. In tier 1, I concluded, after reading all the definitions of tier 1 reading instruction, that we know it's very, very important, but no two people on the planet agree as to what it is. It is these analogues to public health that Sharon beautifully presented, they – we don't know how to stretch it to education. I mean the tier 1 is often like the posters you see in the metro, and the reminders to wash your hands whenever there is some possible swine flu outbreak, which I guess is recurring now. But basically, universal screening makes the most sense. Everything else about tier 1, so we simply avoided tier 1 instruction. It's incredibly important, but in the reading research it's tier 1. Some people say it's classroom instruction, given to all students based on the most rigorous scientific evidence. Well, what do you do? I mean it's like you're a sixth grade math teacher, so you say, "I don't know what to do. There's no tier 1." Then somebody else says high quality, which is great, but high quality to me and to Jim and to Tina, they're not the same thing. So exactly what effective tier-1 instruction is, is unclear and we simply avoided it for here. The National Math Panel agreed that there's not much there. There's not much there. There are some good ideas.

Tier 2 and tier 3, we handled together, because there's a basic guidance for what kind of things should be happening when kids get services at different levels of intensity, and as Sharon mentioned, it could be tier 2, 3, 4. It goes on and on. There could be one kid in tier 5, who also has a sixth grader tutor her in math because it's a great experience for him, and she really needs all this extra help and finding someone who wants to give that time is beyond what the teacher can do. So basically tier 2, these are the key principles here, and I'm probably not going to flesh much out with details, stick

mainly with the math, because I think I can give you more of a narrative and begin to make this coherent, because just putting it like this, as a list, it gets monotonous quickly. This is the whole idea – what do you teach? Now the level of evidence for that is low. Universal screening in math is moderate, as it is in reading. We know a lot about – so let me start with the top, universal screening. K-2, we have a lot of great ideas for measures, things that work out well. Some problems that you tend to over refer the young kids, but if you consider it as a dynamic thing and really look at it, we know that the two key things to look at for very young kids, kindergarten, first graders, is stuff involving magnitude comparison. It's incredibly important because that's basically the development – every cognitive psychologist has a different way of framing it, but it's your development of a number line or a number list in your mind and a way to think about quantities, and it's increasingly shown as a key cornerstone of developmental mathematical understanding, and thinking and proficiency.

So we know that and we also know things related to counting and strategic counting, counting backwards, filling in like 7 dash 9 works great for kindergartners. Some kids know it in seconds. Others look at you or they go, "7," I don't know what. They go, "7, 9, 10." So that idea of figuring out in even just groups of three numbers, so those work great. Older kids we're just beginning. Most people what they do is look at some of the key state standards for the year and use that as screening measures and that seems in the right direction. I won't go beyond that. Some of these were developed a long time ago, so if you look at them now they look real old and dated. So we have a lot of work to do with older kids. Also, as Sharon mentioned, I would definitely be starting in grade four to use the state assessment scores as an initial way to screen who

you might want to look at because it's on everyone's mind. The kids are aware of it, parents are aware of it, and it's a good quick way to screen kids, added onto these other much shorter, brief measures that could also be done. How to teach, that's tier 2 and 3.

Based on my understanding, in the last four years I've had the experience, often a pleasure, but at times frustrating, of working with research mathematicians, Sabella, but many, many others who tend to be strongly opinionated on a slow day, and often, you know, one genius after another from Berkeley, Wisconsin, Michigan. But they were like in two minutes they know the answer, and they tell it to you, and if you disagree with them, they get angry, and that's the degree of our dialogue. Sabella, we were able to discuss. It was kind of nice most of the time. But basically there is a key insight. Now there's no data to support it, but this is a key insight, that what you need, there is some key stuff that kids need to know. If it takes them 8 years, 2 years, 11 years, it doesn't matter. Kids need to know key material. Kids need to know concepts about whole number, and they need to know concepts and procedures, whole number, rational number, fractions. So to succeed in algebra, you need to know fractions, proportions, decimals, ratios, change one to the other, put them from biggest to smallest, not understand little tricks and gimmicks for, you know, .007 versus .6, but really understand and just work with them enough so that you understand those, and basically, those are the two key things that you need to know to succeed in algebra. And in intervention, some of the other stuff that people like to do – there's nothing wrong with it – that should not be the focus. That is a huge consensus opinion. No one in our group disagreed. The research mathematicians disagree with almost everything else, but they don't disagree on that, and these are people who've thought long and hard

about what to teach kids. So kids who struggle, they need to really know this stuff. They're very likely to learn it much more slowly.

The little bit of cognitive research shows the kids who struggle tend not to be good at remembering a lot of abstract information, and storing and retrieving it, so it's going to take a lot of time, which leads to how to teach, and here we found strong evidence. I said explicit and systematic, based on what the author said, but when I really looked at the studies, because a lot of times you know the authors, and you read the discussion book, and you really look at what's inside the studies – it was a system. It was they moved at a deliberate pace. And this stuff was covered, and there was a lot of review, and the linkages were really clear. So if you're starting work in fractions, you were reviewing multiplication facts, so you can understand what the lesson was about. It's really a deliberate pace – not dull, necessarily. Some of the materials could use some livening up. But to succeed, the fact they were deliberate and moved at a level that made sense for these students seemed to be the key of those that got consistent effects.

Another thing is word problems. In the National Math Panel, we heard a lot of public testimony, and one, the one that meant the most to me was from a gentleman at a community college, who said the problem we have, we have people very interested in technical training and all, dental technician, a million fields. The problem is applied problems, word problems. They can't apply the math that they know, so if you give them an equation or give them a division problem they can do it, but you give them applications, the way they come up in any field or in our lives, they can't solve them. They can't link the math that they can perform to problems, which is a huge issue, I

mean in any kind of field. And there is some work, and it started with Tom Carpenter's work, and then it's been applied with these tier-2 students primarily, that shows that you can teach kids the structures of problems, the underlying structures of problems. And if there are questions later, but they're basically simple things, like it's easier to explain to an adult than a kid, like compare problems, involve quantities, so anything that hits the word comparison and kids, then they have their little visuals and ways to figure it out. So that is a strong finding that the word problems, we have ways to teach them, at least in the elementary grades. And when I've looked at the core series, the tier-1 material, I notice they have it in there, but like for a day. Well, these are kids who need to use it – and I see my friends in Kentucky, going to be panelists, who were hand selected by me because they're both brilliant people to work with – but they have a day of something that kids need to live with and use as a tool kind of for years and years in their lives, including when they're learning algebra in pre-algebra.

Visual representations is no surprise. That has been the major advance probably in math instruction and math education. Understanding that flexibly using representations of problems and mathematical ideas is key, and there are great insights and developments there. We found that research moderator was kind of building. And one of the neat tricks is some of the work done with kind of tier-2 and tier-3 students is there's this usual rule, you use manipulatives in elementary school, middle school never. For these guys who, again, aren't great at remembering abstract stuff, this very strategic use occasionally of these concrete manipulatives seems to be incredibly helpful. So then they can understand the graphs and the bar, the bar graphs and the linear functions that are in their textbooks, occasionally going back and doing that.

Building fluency with facts, that has been one of the most robust findings in mathematics research that proficiency with basic facts, quick retrieval, is correlated with general success, in terms of math performance, at least in the elementary grades and for struggling students even afterwards. And that's robust, and most of these interventions, and we suggested spend, and I just said 10 minutes of time a day approximately, because you don't want kids spending an hour on facts, and the 10 minutes seemed in the ballpark for something that might make sense. Progress monitoring, same as reading. It seems like a good idea to us. There was no data showing that any experiments used it in any fashion. The kids, if they were in, they were in, and what teachers did, which teachers have been doing in interventions, whatever they were called, be it research room, Title I math, blah, blah, blah, remedial math, they did their mastery and unit tests. So, again, the research evidence and the guidance are somewhat at odds there. And use of motivational strategies, we couldn't find any clear research on it, but the group really felt, so we say low level of evidence, but it just seemed incredibly important because this is stuff that kids don't go in, and if it's an intervention with a lot of self confidence, and little things, you know, all the stickers and points for pizza, I mean they're all, they've been around a long time. Sometimes they have kids do their own graphs for older kids. That seems to work well. Tier-3 students, it doesn't seem to work very well. Maybe it's just too abstract an idea and too depressing in some cases, because in some cases their progress, it's still slow, and it's more important for an adult to explain that and know how to highlight, because, again, these are kids who have a hard time grasping mathematical relationships, and these graphs of progress are kind of intricate. So that is our basic picture there, and I hope it does the

same thing, and we'll hear from our panelists in terms of helping people know what to think about, what to ask about, which things to consider in developing RTI, which is in many cases just starting up in math in districts and states. Thanks.

James Wendorf

And will the other panel please come up? Good, thank you. I'm Jim Wendorf with the National Center for Learning Disabilities. I'm delighted to moderate this panel. It's always intimidating to follow Russell, especially when he's done this twice in one day, and let alone to introduce the panel, which I'd like to do now. With our panel today, we have research, we have policy and we have practice covered. And joining us today are Karen Karp, professor at the University of Louisville, and is also on the board of the National Council of Teachers of Mathematics; Deb Zigler, who is head of policy and advocacy at the Council for Exceptional Children. Deb, glad you got here. Big traffic jam I heard. We have Karen Cheser, who is assistant superintendent with the Boone County schools in Kentucky, and Judith Russ, who is mathematics curriculum supervisor next door in Prince George's County, Maryland. So welcome to you all.

Just a quick word. My own organization, and I think every other group represented here today, has a lot at stake with RTI. We tend to see RTI, we've talked a lot today about framework and that's absolutely correct. We also see it as a comprehensive set of solutions to an intertwined set of problems. Some of those problems have been pretty intransigent over the years. Late identification and late intervention, low achievement, persistently high levels of behavioral problems, high dropout rate and low graduation rate, and those are the problems that kids face. And

then there are the problems that schools face – insufficient professional development and teacher preparation to produce the educational teams needed to do this work and statutory, regulatory and organizational silos that too often prevent the kind of instructional teamwork that’s needed to do the work. So I would throw that into the mix and move on.

I want to say a word about both practice guides. I think they’re among the most substantive and the most useful tools that I’ve seen yet come along in the RTI movement. And where are we? I’d say that in many ways we’re at the end. We’re at the end of the beginning. The end of the beginning, it’s been a long beginning. Someone referenced 10 years, 15 years getting up to this point. But with these practice guides and the work being done by the What Works Clearinghouse, and then the work being done by the RTI Action Network, by the National Center for RTI, and by the IDEA partnership, those three in particular, those groups, all of them based on collaboration, I think are focused on the next big phase, which is all about scalability and sustainability of RTI and these tools are critical to that effort.

Panelists:

JW: = James Wendorf
KK: = Karen Karp
DZ: = Deborah Zigler
KC: = Karen Cheser
JR: = Judith Russ
R: = Audience Respondents

JW: So let me pose some questions. Karen Karp, your research has had a strong focus on effective methods for struggling, students struggling with math. And we’ve heard a lot today about the unique elements of math instruction, versus say

reading instruction, so how do you fit them together? What's unique about math instruction, especially as we look at RTI implementation?

KK: I'm also going to speak to, and I want to let you know from the start, that I am a math teacher-educator. I teach teachers how to teach math. I teach elementary, middle and special education teachers, and so I just want to advance my statements with the perspectives that I'll be bringing to this. There are definitely some unique aspects to the teaching and learning of mathematics that do need to be considered as we begin to, and in the case of math, which is a little bit slower than the reading group, as we begin to use this practice guide as a true catalyst I believe for the work we have ahead. So first, as discussed in the practice guide, mathematics has both conceptual and procedural components that must be developed. It's not enough for a teacher of mathematics, or for a child, to know a formula or an algorithm. They've got to be fluent completely in the conceptual underpinnings, as well as be able to comment those concepts through multiple representations and strategies. Concepts must be developed first.

So in the stereotypical work that I do as a math teacher, let me give you a short quiz. I'm going to ask you to think of the math problem that you were probably asked to do at some point in your life. Let's think of $1/2$ divided by $1/4$ – for those of you who would like to jot that down, but I'm not going to really ask you for the answer. I want you to think of how you would approach that problem. I'm pretty sure everyone in the room can do that, so I'm going to let you think for a couple of seconds. My best guess is, is that most of you say to yourself mentally, "I will change that division sign into a multiplication sign and I will flip that," or, if you want to use the math language, "invert

that fraction, that second one over, get it into 4 over 1, and then I'll multiply and I'll get this really interesting answer of 2." Even when we ask teachers, prospective teachers, practicing teachers in some cases, particularly at the elementary level of, "When might that problem come up?" – and I believe that's what Dr. Gersten was just referring to – "When do you apply that? Better yet, what does that mean?" and many times when a child will say to a teacher, "I don't get that," you know, that flipping, that changing of signs and all the rest, what is different about math is, is that sometimes teachers don't know the conceptual underpinnings, and I'm not talking about current teachers who are coming out now and teachers who are working with a lot of professional development, but teachers who really had just a procedural knowledge. And so what I'm going to do is actually show you a way to look at this a little differently.

And so what we're going to do with special ed children, what we're going to do with all of our children at the tier-1 level is to in fact say, "Let's connect that to something you do know." So we do know, everyone in this room, 25 divided by 5. We could think of that quite easily. You could think about that quite conceptually. You could say that there are five 5s in 25, and you can really image that. So what I'm going to do is take the same problem we looked at a minute ago and connect it, using visual representation. So now I have a half. It's a very traditional half that you're familiar with. So now what I'm going to look at is how many fourths are in a half, or how many 5s are in 25. I hope you could see there are two. And if kids really understand this, then they can understand much more. And as Dr. Gersten says, as a teacher, and, again, one of the complexities of math is that I actually have to be very strategic in the next problem I would give, and I probably might even be bold enough to give this group a problem such as $3\frac{1}{2}$ divided

by $\frac{1}{2}$, and I gather you could probably even, if you think about it this way, either do it in your head or do it quite quickly with a picture. It is that very kind of, it's what we call pedagogical content knowledge, and so it prevents the teacher, again, from when a child says, "I don't understand," it prevents them from having to say the formula slower and louder. So, anyway, that's one of the things, but I also want to just point out that math is, there's complexities because there's lots of domains. The materials I use for fractions would be different from what I use with geometry, which would be different from what I would use for algebraic patterns or looking at data, so that's another complexity.

And last, there's another complexity that the teacher education field has to deal with. Students come in, love reading – love it. Math, not so much. It's a real hard sell, and the very motivational strategies that Dr. Gersten was talking about with students are often motivational strategies that we need to use with teachers. Sometimes we'll even have teachers indicate to us that they are approaching a field such as early childhood, or special ed or elementary ed, because they don't really want to have to take that much math. Obviously that's a red flag for us and those are just exactly the candidates we do not want.

JW: I think you succeeded in answering both questions at once because you moved us on to the next big issue, which is about teacher preparation and making sure that the teachers who are coming into schools and engaging with RTI frameworks actually have the math concepts, or reading or both, often needed in order to do the work. So why don't we move on next to Deb Zigler and what is, you know, we look at the policy dimension. We heard from Larry Wexler, who referenced IDEA 2004. We

know about what's in the statute and we know full well what was worked on the regs. But going forward, the future, what do you see policy implications for RTI over the next couple of years?

DZ: Thanks, Jim. When I was asked to be a part of this panel, I was a little nervous and I'm glad Karen introduced herself as a mathematician. I am not a mathematician and I'll say that very loud and clear, so when they asked me to talk about policy as it relates to this, I was much more comfortable. I think that certainly we need to look at what policies at the federal, state and local level that will help build capacity for RTI, and particularly RTI in math, look at the scalability of this across the nation, in schools from east to west, north to south, and what the sustainability of this is. And so it's not an easy fix certainly, and some of the things that I think are important, and particularly from our association's perspective, who work on behalf of children with disabilities and gifts and talents, we're very adamant about this being a school-wide initiative, and, of course, everybody at the table, from the general ed teacher to the special ed teacher, looking at the different tiers. But also I think an important point for us is, before I move on to policy, is that certainly any child who may be in need of special education, and it is apparent as they move through the tiers, are referred as quickly as possible to have the opportunity to access special education, if that's an area that will help their progress.

Having said that, I think that some of the policy implications that will be important for us to look at is this whole relationship between special education and general education, and more and more children are accessing the general curriculum in schools across the nation, which is absolutely wonderful. But how do we give those teachers

and the students the best tools, in order for them to do that? So implementing good policy in that particular area, as we move forward in this policy development, looking at team roles, including across all teams, special ed, general ed, related service personnel, looking at who our partners are in this and, of course, families as part of the decision-making team and the implantation team. And then perhaps another aspect of this might be for children who are twice exceptional, children who have a disability and children who have a gift and talent, and then looking at the ongoing research on this particular area, so continually looking at the implantation issues and how we look at some of the big research questions, as well as more specific research questions around RTI and its implementation. I think now coupling these together, it will be important for us to advance that field in policy development, and so I know the council, as well as many other organizations, will be looking forward to advocating for continued research. And, of course, the last issue that certainly we'll be looking at in policy development is appropriations, the resources in order to build capacity, to look at sustainability over time. And the last piece is, of course, professional development. And so if you couple all of those in a variety, and as we move on to the next question, I think I can talk about a little bit more of how to build these into IDEA and No Child Left Behind.

JW: Please do, especially reauthorization of ESEA and IDEA.

DZ: Well, I don't think anybody in this room hasn't followed what's been happening with No Child Left Behind reauthorization, or maybe we should say what's not happening with it. We actually, CEC had its Hill day over the last couple of days, and so we've had a lot of interaction on the Hill in the last couple of days, and consistently we heard the message early next year. But we all know that there's a lot of

work behind the scenes already happening, and has happened on IDEA – I’m sorry, No Child Left Behind reauthorization. In the last session of Congress, we saw in a House draft some components of RTI in that House draft. Those were around the implementation of RTI around schools who were failing or who needed help around improvement issues. And CEC, along with many other organizations, are trying to address this as a whole-school approach. It’s not around schools needing improvement. Of course, it’s going to help schools needing improvement. But hopefully, if we’re implementing the RTI processes, maybe we won’t move to needs improvement in the RTI process. So more advocacy and broadening the RTI conversation. As you know, in IDEA reauthorization, it was strictly around the identification of students with learning disabilities. I suspect both in IDEA and No Child Left Behind we’ll see a much broader focus of RTI. And as we move from No Child Left Behind into IDEA, oftentimes you see the movement and the ramping up of provisions, and as we learn in No Child Left Behind, I’m sure we’ll have some even newer knowledge and information then to put into our IDEA reauthorization, which is bound to be in the next couple of years, given the timeline and what the Congress has on their plate right now.

JW: Just to follow up, Deb, if you see a broader role for RTI in the two big laws, do you see that leading to either faster expansion and/or improved quality of RTI?

DZ: Absolutely. I think that without them, without RTI in whatever will be the reauthorization of elementary and special education, I don’t think we’ll see this whole-school approach and everybody sitting at the table to move this initiative forward. And as you know, there are many groups that are not necessarily so in favor of seeing RTI in the Elementary and Secondary Education Act or No Child Left Behind. So I think it’s a

matter of us coming together, and collaborating and seeing how we might move that agenda forward.

JW: Great, good, thank you. Maybe we can come back to the resource question a little bit later. I want to move on to Karen Cheser. And, Karen, your district, which Russell pre introduced, so that was great, you've already successfully implemented RTI strategies in reading and you've begun doing so in math. So tell us about the major differences here and what the challenges in doing the one versus other, if you would.

KC: Okay, sure. And let me just start by saying greetings from Kentucky, and that I'm here not on behalf of any leadership that I've done, but on the hundreds of teachers and administrators who have done really hard work over the last few years. We, actually we didn't want to start math yet. It was one of those things where we realized there weren't many materials out there. There weren't a lot of interventions, a lot of research. We have gone to NCTM the last few years, been looking for something and all we hear is, "We're also looking." But we realized we had to. I mean one of the differences between reading and math is that we found that reading is more apparent. Challenges for children are more apparent with reading, we thought, that we weren't really seeing that our students had the major weaknesses in math at the early elementary level that we did in reading. But one of the things we found was that our – we were having scores drop on our state assessments and our national norm reference assessments when they're getting to sixth grade. And then we're seeing that in algebra that our students, 50% of our students were either failing or struggling miserably and had to take it again, and then we really saw that when we had remedial classes, almost

a necessity for a third of our students when they went to college because they weren't getting the scores on the ACT, so we thought we've got to dig deep on this.

And so after conversations with our middle school teachers, our high school teachers, looking at those scores, we realized that it all went back to a lack of foundational number sense and fluency. And so that, knowing that information, I mean it was incumbent upon us to do something about it. We can't just let that go and let hundreds of students, including my own children, just fall through the cracks. And so what we looked at was that that starts to happen in about second and third grade, but our teachers don't really know it's happening because on traditional assessments they're doing pretty well, which is a challenge between reading and math because traditional assessments don't point out these gaps. And so our very first challenge that was different from reading is that we had to actually design our own assessment and it couldn't be a paper-pencil assessment. It had to be a diagnostic conversation with the students. And we're so thankful for the book that Karen coauthored with John Van De Walle because that was our basis for this instructional conversation. So our instructional coaches and others did some action research, where they tried out the diagnostic assessment on some children and really got to the point – the minimum is about a 7-minute individual conversation, with some performance tasks that get at where did, where is the gap? We didn't find that our children had a huge basic number development gap. They could identify missing numbers. They could tell you about magnitude. But their issue was about number sense, composing, decomposing numbers, subitizing. Can they look at five dots and just automatically know that's five or do they have to use every bit of working memory and count?

So that's where we saw now another challenge was that when we gave that assessment, 50% of our kids bombed it. What do you do with that? So as in universal screening, we're finding that it's not the bottom 20%, like it was with reading. It's a whole lot more kids. But the way we met that challenge was that we thought, you know what, if there could be sort of a set of lessons that every child received, maybe we can reduce that gap, and so that's what we were able to do is reduce that down to a few students. So that was, number one, that it wasn't readily apparent that you have more students who need help. Then we have the whole issue of staffing, because traditionally schools have used Title I funds or general funds to put some sort of reading specialist in a school, but not with math. We don't really have that. We also knew that our teachers did not have the knowledge base that they needed, not only to just know math in general, but know it so well that those students with misconceptions about math, that those teachers would know exactly what to do with that.

So we did do a pilot summer school program, where we were able to use a really high-quality intervention program, got tremendous results. But a byproduct of that was that our teachers who worked with those children could then use that information, use that professional development within the classroom. And so this summer, I know you'll talk about the ARRA funds, but we're now using our ARRA funds, and especially the child early intervening services funds, to continue and expand that summer program.

JW: Great, thanks. Can I, you know, you've identified these challenges, which are numerous, and I think a lot of your comments echo Karen Karp's about the kind of foundational concepts that need to be in place for the instruction to be effective. So let's talk about the practice guide, and do you see the practice guide actually informing your

work going forward, and, if so, in what way? How would you actually use it in your school district?

KC: Absolutely, and we already have taken a lot of that information. I think one thing was on the fluency issue. I think we initially thought, you know what, we're going to keep the fluency instruction kind of later. Let's do the number sense. And as we've been working this last year, we've embedded the fluency, and we're seeing that that actually increases the number sense and makes those students not fall behind so much. I would add though that it has to be intentional fluency process. Like it's not just a general – most teachers are interested in doing just these sort of abstract, random, mad-minute kinds of things, and it has to be very focused on the facts that the students don't know in a systematic manner. That's one thing. The issue of motivational strategies, and what we've found using the information in the practice guides and that whole issue of the tier 3 and not having just kind of those external rewards is that when students see their progress on that progress-monitoring graph, that has been the biggest motivator, and we've seen a huge jump in students' ability. And then I guess the last thing that we're looking at right now has to do with word problems, and, again, this kind of focuses on the reading-math connection. And so because of the strong message in that practice guide about the importance of those word problems, we're having to look for alternative ways to work with students who aren't reading well and are not doing math well, and doing those more orally and verbally.

JW: Terrific, good, thank you. And, Judith, you are out in front in Prince George's County, so you have been not supervising math, but you have been supervising RTI math. And my first question really has to do with what are your

successes and what kinds of challenges have you found, but let's start with success first.

JR: Okay. Good afternoon. It's hard and easy to come behind everyone that has spoken because a lot of things have already been said. But I think one of our biggest successes with RTI in mathematics is the fact that RTI is truly an extension of the expected curriculum of differentiating instruction for all of our students. And what has been provided in our curriculum documents are lessons that have strategies presented in three formats – the concrete, the representational and abstract. So when we initially put those in the curriculum document, they were intended for special education students and for teachers to help, but really what you look at is that simply is just good math instruction, that you start with the concrete. And kind of as we're looking at the guide, and you talk about tier 3, 2 and 3, with the representational and the concrete, that really is part of general math instruction and that's what we have tried to provide. We're also doing a study now in our district. We have an initiative going on, whereby we're looking at student work and what teachers are truly asking of our students. And so we're studying student work to see if in fact we're asking the right questions, or how can you get at conceptual understanding, if a lot of the things you're asking your students to do are rote computational type things. So that's something that we're working on right now.

JW: Great, thank you. What about the availability of support, of materials, instructional materials in RTI in math? And you're working with frontline educators. You're also looking at what might be available in the way of materials and professional development. Is there enough? Is there not enough? Where are we?

JR: I think that's truly been addressed that there's just not the same research in mathematics as there is in reading. The materials that we have reviewed, even recently, for possible adoption, a lot of them still have the – they have similar formatting to perhaps, you know, a few years ago, and they're not looking at building conceptual understanding. The problem-solving, the inquiry approach is not necessarily there, in order to support teachers. So that becomes a challenge for my department to provide teachers with high-level task and ways to modify what's in the textbooks and so forth. So that's one of the challenges that we have is providing support for teachers, in order to build that conceptual understanding.

JW: So an area of need.

JR: It's an area of need, more research. We've talked, you've talked about the motivational requirements of students, when you're motivating and still building that conceptual understanding. Success does breed success, but if in fact you're doing things and the students are not seeing that success initially, what is going to be available, what can we do, and I think that's an area that we really need to research and do more work with.

JW: And in terms of financial resources, Karen Cheser spoke about ARRA funds, stimulus funding being actively used to drive this process in Boone County, and, Deb, I know you have something to add to that. Judith, any of that happening with regard to RTI right now in Prince George's County, whether in reading, math or both?

JR: The funding I believe is going, I hate to say, through the special education department, so I'm not truly aware of where the funding is, but I don't know that – funding is always an issue, but looking at time to provide students with these intensified

interventions, as well as our human resources, to provide human resources, in order to provide the interventions for students.

JW: And you point out there are 15-16,000 school districts out there, and the flow of decisions and money is complicated, right, from where it is going.

JR: Oh, yes.

JW: Deb, do you have something to add about that and what you're doing at CEC?

DZ: Yeah. It's just a perfect opportunity I think for us to take a look at the ARRA funds – say that three times quickly – and look at the use of these funds to build capacity, to ramp this effort up nationwide, to take a look at a variety of sources, not just the IDEA funds, but the Title I funds. And I think the more we can look at, and I think this is true of policy for the future – we're going to see more meshing of IDEA and Title I together – I think right now we also have that opportunity to take a look at how we use these funds across programs and to combine them into a whole-school approach. And we've heard lots of great examples of this is happening across the nation, and there's a lot of discussion about the funding cliff and using these sources of funds in a way that will help build capacity for the future, but not provide that horrible cliff that will be at the end, and RTI and other kinds of interventions like this is just a perfect opportunity for us to use those funds.

JW: Agreed. Good. Thank you for that. We're going to open this up for questions. We have several minutes. And for those of you here who want to drill down or in whatever other direction, either research, policy practice, the floor is yours. We have Mark?

R: Hi. Mark Sherman from LRP. Ms Cheser and Ms Karp; Ms Cheser, you were talking about the flaws in the traditional assessment instruments that did not reveal problems with what you call numbers sense at the early ages, and you referenced what Ms Karp had done in that regard. Can you say more about what is wrong, what is missing in the traditional assessment approach and what is different about the one-on-one method you use?

KC: Well, I think what we've found with both our state assessment and then our national norm reference assessment is, well, number one, students can use calculators. And so what that does is it may mean that they understand which operation to use, but they don't understand what that operation means. And traditional assessments can't ask them to do things, for example, say look at a 10 frame and be able to generalize that 8 is 2 away from 10, and you don't get into the thinking of the child. You don't understand where they went wrong in their thinking. You either know they got it right or they got it wrong. And so I mean that's been our issue. The other issue is that the students tend to know enough math to get up to about the fifth grade level, but after that they can't do higher level math, if they don't have that numbers sense. Also, it's not going to measure fluency. I mean these aren't usually timed assessments that require them to come up with those numbers quickly. And what we've found is that if you can only have five, plus or minus two, bits of information in working memory, then these kids are spending all this time thinking of adding up the problem and they can't get to the higher level math, and you don't see that in a traditional assessment. You just know that they either got the answer correctly or not. You don't know how fast they did that. That's one thing.

JW: Any other comments about that question, Karen?

KK: Well, one of the things that we've been using are what we call diagnostic assessments, and I think that that's what Karen is referring to, and these are targeted on concepts, where you can actually sit down with the child and ask them a question in depth, and the kids are picked by their teachers for particular reasons that they think that they might have concerns, and these actually get at kids' thinking. It's not an opportunity for a teacher to teach. It's an opportunity for them to capture the kids' thinking on a particular topic, and these diagnostic assessments really give the kind of information that enables a person to know if the mistake is careless, which many teachers attribute kids' mistakes to careless errors, when they're in fact not, and that they're very, very carefully thought out, repeated errors, over and over again, where they just do not have the conceptual understanding.

JW: Great, thank you very much. Any other questions? Going once. If not, we'll conclude. I'm going to turn this back over to Mark, but I thank our four panels. Thank you very much, not only for what you did here, but what you're doing every day in support of kids and in support of Response to Intervention. Thank you.

CLOSING REMARKS

Mark Dynarski

I just want to say how pleased the folks at the Clearinghouse are to be able to offer evidence to educators and know that it's really got traction. It's just a wonderful feeling. I do want to mention that we do have more practice guides that are being prepared and are currently expected to come out – data-driven decision making, how to

use out-of-school time to improve academic achievement, how to improve college going, and then we are now beginning work on how to improve reading comprehension for beginning readers and how to teach fractions in primary school. So these will be, these are extensive amounts of work going on right now and we will be very pleased when we can release these.

I've asked Phoebe Cottingham if she could just offer some concluding thoughts for the forum today.

Phoebe Cottingham

I'll be brief because I think we've had a wonderful exposure and discussion today, with people who really know a lot about this in the field and how it's working and from the practice guide leaders. I want to just point out, because I know we have two of our regional educational laboratory directors here – Joe Weber from northeast and Louis Cicchinelli of central – that we are sponsoring forums that the regional educational laboratories are holding throughout this country, and they are taking the practice guides that you have just heard about today and they are introducing them with educators in localities. And I know Lou and Joe could tell you more about it maybe after we conclude here, but it's very successful because it speaks to exactly what educators want and they want more. And so, Mark, is it fair for me to say that you are now working on practice briefs to expand on the materials in these guides? Because people who seriously want to do this, they want to be able to have their own training, discussions, professional development activities, so they need more even than what's in the practice guide, even though we thought the practice guides were pretty extensive. So that is coming and I

just think it speaks to the hunger and the fact that people are really ready for this framework in their teaching. It's very important in general education and special ed. It's the first time we've seen these come together in a productive way and we have great hope.

Under the IES, we're doing more studies, of course. We have a whole special education research center, and we are doing evaluations around Response to Intervention, and more will be coming. And we just ask you to come back again, when we have an event like this. Contact the What Works Clearinghouse. Find out what's going on, and I'd be happy to take any suggestions you have. You are here in Washington. You represent organizations and entities, who are very interested in promoting better practices and policies and funding throughout this country. I want to tell you that you've got an audience out there that supports you and they want it too. We're here to help you. We provide the research. We synthesize it. You are the people who do it, and thanks so much for coming today. Thank you, Mark.

END OF VIDEO PRESENTATION