Using Scientific Research-Based Interventions:

Improving Education for all Students

Connecticut's Framework for RTI

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Connecticut State Department of Education

Bureau of School and District Improvement

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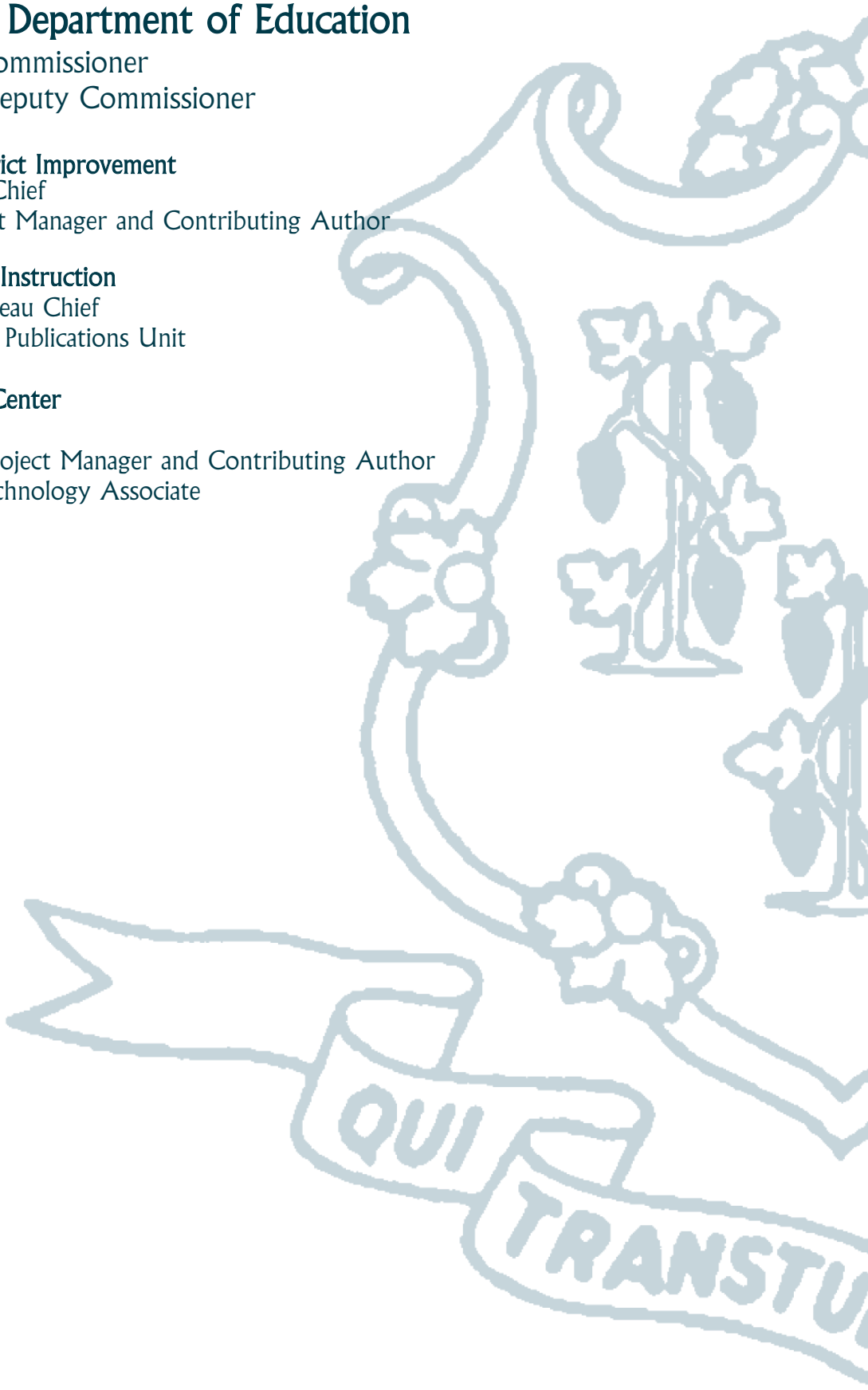

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Special Acknowledgement

The Connecticut State Department of Education is especially appreciative to Dr. Louise Spear-Swerling for her integral contribution to this publication.

Foreword

All of us must lead the learning for Connecticut's students.

"Everyone must play a part in leading the learning. Leading the learning means knowing your job and doing it well; it means opening yourself to new tasks and responsibilities; letting go of old assumptions and being prepared to be trained in new skill areas; and holding yourself to the highest standards possible."

Mark K. McQuillan, Commissioner of Education, March 27, 2007

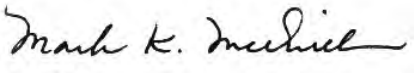
An effective education is vital not only for individual advancement, but also to provide a capable workforce and citizenry for our state. Our future workforce is utterly dependent on our public schools to turn out knowledgeable, highly literate, responsible and technically able graduates that are prepared to contribute to the progress of this global society.

Schools in Connecticut and across the nation face significant challenges to ensure that all students graduate having the benefit of a superior education. The State Board of Education has established goals for Connecticut's students to achieve this superior education which include:

- Expanding preschool;
- Restructuring secondary schools; and
- Closing the achievement gaps while improving the performance of all students.

All schools in Connecticut have the collective responsibility to ensure that research-validated practices are embedded daily in order to achieve these desired goals. The basic principles of Response to Intervention (RTI) hold considerable promise for helping Connecticut schools improve education for all students and address the large disparities within the state.

It is my pleasure to present the State Department of Education's framework for RTI entitled Using Scientific Research-Based Interventions (SRBI): Improving Education for All Students. The SRBI framework builds upon the coherence of various research-based school improvement models, including those adopted by our Connecticut Accountability for Learning Initiative (CALI). It is my belief that this publication, and future Department of Education professional development activities, will support our efforts in leading the learning to ensure educational success for all students. Horace Mann's words spoken more than 150 years ago still aptly apply today: "Education is the right of every child – the great equalizer and balance wheel of the social machinery." The future of our state and nation depend upon our expectations and pursuit of high academic and behavior standards for ourselves and our children.



Mark K. McQuillan, Commissioner of Education
August, 2008

Introduction

The Connecticut Context

Challenges Facing Connecticut Schools. Education has long been viewed as the chief vehicle for advancement in American society. Few Americans would argue with the idea that all students should have the opportunity for an education that helps them achieve to their capacities. Moreover, a high-quality education benefits not only individual students, but also society as a whole, by providing a capable workforce and citizenry. Currently, however, schools in Connecticut and across the nation face two significant and interrelated challenges in ensuring a high-quality education for all students. First, the meaning of "high quality" has changed, because schools must educate students to more advanced levels than ever before. Technology and global competition are rapidly changing the nature and demands of work in many fields, necessitating more advanced levels of literacy, mathematics and science knowledge (Friedman, 2006; RAND Reading Study Group, 2002). Second, schools must ensure that curriculums and instruction are relevant and responsive to all students so that each student has equitable access and opportunity to obtain advanced levels of achievement.

How is Connecticut Doing? Connecticut has generally fared well in state-by-state comparisons that focus on students' mean achievement. However, these kinds of comparisons mask large and longstanding disparities in achievement within the state based on race, ethnicity and socioeconomic status (Connecticut Early Childhood Education Cabinet, 2006; Connecticut State Department of Education, 2000, 2007a). Furthermore, disparities exist among the previously mentioned subgroups for other indices of school performance besides achievement, such as school dropout rates, suspension and expulsion rates, and the rates at which students are identified for various types of disabilities. In addition, there is considerable room for improvement in achievement for all student groups in certain key areas, including reading, writing and mathematics.

Some Recent Connecticut Data. Results of the 2008 Connecticut Mastery Test (CMT) showed large gaps in performance at all grade levels tested, third through eighth, as well as in all three academic domains (reading, mathematics and writing), demonstrating the continued disparity in student achievement by race in our state. In terms of percentages of students meeting state performance goals, the differences were 30 to 40 percent or more, in most areas at all grade levels. For example, at the third-grade level, approximately 64 percent of white students met the state goal for reading, where 27 percent of black and 24 percent of Hispanic students met the state goal. For mathematics, the corresponding percentages were 71 percent for white students, 33 percent for black students, and 36 percent for Hispanic students; for writing, 73 percent of white students met the state goal, compared to 42 percent of black and Hispanic students.

Large disparities also exist for comparisons based on socioeconomic status, whether or not students are English language learners (ELLs), and whether or not students are receiving special education services. Across the grades, between 10 to 30 percent of special education students met the state goal in reading

compared with 55 to 80 percent of their non-special education classmates. About 10 percent of ELL students met the state goal in reading compared with 55 to 75 percent of non-ELL students. Across all grades, about 25 to 45 percent of students qualifying for free or reduced-price lunches, a commonly used indicator of socioeconomic need, met the state goal for reading on the 2008 CMT, compared with about 65 to 82 percent of students who did not qualify for free or reduced-price lunches; for math, the corresponding percentages were 30 to 40 percent versus 70 to 80 percent and for writing, 34 to 40 percent versus 75 percent. There is a three year positive trend in reading and math across all grade levels and in writing for Grades 3 and 6, which demonstrates a decrease in the gap at both the goal and proficient levels between students who qualify for free and reduced-price lunches and those students who did not qualify (see www.cmtreports.com).

While several school districts in Connecticut showed a narrowing of the achievement gaps by race based on the 2008 Connecticut Academic Performance Test (CAPT), large gaps still remain statewide. For example, among grade 10 students in math, 63 percent of white students met the state goal; the corresponding percentages were 18 percent for Hispanic students and 15 percent for black students. For students without disabilities, 54 percent met the state goal in math compared to 15 percent for students with disabilities. Fifty-two percent of non-ELL students met the state goal in math as compared to 8 percent of ELL students (see www.captreports.com).

In the 2007-08 school year, one in seven students in Connecticut public schools had a dominant language other than English (72,417 students). Over the last five years, both the number of public school students speaking a language other than English and ELL students increased by 3.6 percent and 15.5 percent respectively. The increased diversity of languages spoken by Connecticut's student population presents the state with a variety of challenges as well as opportunities for enhancing its public education system. For more information about ELL students in Connecticut see www.csde.state.ct.us/public/cedar/databulletins/db_ell_report_6-23-08.pdf.

School dropout rates declined for all groups in the period from 1997 to 2005, but dropout rates in 2005-2006 remained two to three times as high for black students as for white students, and three to four times as high for Hispanic students as for white students. Students from schools in Connecticut's lowest socioeconomic group, **DRG I** (see www.csde.state.ct.us/public/cedar/databulletins/index.htm for information about District Reference Groups), were nearly 16 times as likely to drop out of school as were students in the highest socioeconomic group, DRG A (see Connecticut Dropout Rates at www.csde.state.ct.us/public/cedar/cedar/dropout/index.htm).

Although black students make up approximately 14 percent of the overall school enrollment in Connecticut and Hispanic students make up approximately 15 percent, black students constitute 35 percent and Hispanic students 25 percent of those receiving suspensions from school. In addition, black and Hispanic students are almost twice as likely to be identified with intellectual or emotional disabilities as are white students (see www.sde.ct.gov/sde/lib/sde/PDF/DEPS/Special/SSP/Disproportionality_Data08.pdf).

Connecticut's eighth-grade scores on the National Assessment of Educational Progress (NAEP) for math in 2007 and science in 2005, the most recent years of NAEP testing in those subjects, were slightly above the national average; however, the percentages of Connecticut students scoring at or above proficiency on the NAEP still only were 35 percent for mathematics and 33 percent for science. However, when the data were disaggregated, 52 percent of white fourth graders scored at or above proficient in reading, while 15 percent of black students and 16 percent of Hispanic students scored at or above proficient in reading (see Connecticut's NAEP scores at www.nces.ed.gov/nationsreportcard). In addition, when comparing the achievement between poor and non-poor students, Connecticut ranks 50th, the lowest of fifty states in the nation, as measured by NAEP (ConnCAN, 2007).

The Background Behind Connecticut's Framework for Response to Intervention

Federal Legislation. In the past few years, two important federal laws relevant to the challenges outlined above have impacted school districts across the country, including those in Connecticut. The No Child Left Behind Act of 2001 (NCLB), a reauthorization of the Elementary and Secondary Education Act (ESEA), contains numerous provisions aimed at ensuring the academic growth and achievement of all students regardless of their race, ethnicity, fluency in English, disability or socioeconomic status. And in 2004, a major federal reauthorization and revision of the Individuals with Disabilities Education Improvement Act (IDEA 2004) was passed, with accompanying federal regulations published in 2006. IDEA 2004 and its 2006 regulations allow school districts to use data from a process known as Response to Intervention (RTI) as part of the identification procedures for students with learning disabilities.

RTI is the practice of providing scientific, research-based instruction and intervention matched to students' needs, with important educational decisions based on students' levels of performance and learning rates over time (NASDSE, 2005). In RTI, instructional and social-emotional/behavioral supports for students are not premised on a particular label, program or place, but rather are provided based on students' needs. Federal regulations associated with IDEA 2004 explicitly encourage schools to implement research-based interventions that facilitate success in the general education setting for a broad range of students. Furthermore, IDEA 2004 permits districts to use up to 15 percent of their special education funds to develop and implement coordinated, early intervening services for students in kindergarten through Grade 12 who need additional academic or behavioral support to succeed in the general education environment, but who have not been identified as requiring special education or related services.

State-Level Leadership Team. The basic principles underlying RTI have been endorsed by the Connecticut State Department of Education (CSDE) for a number of years, including evidence-based instruction, early intervention, ongoing monitoring of student progress and data-driven decision making. An internal state-level leadership team has been charged with operationalizing these principles in a way that best meets the needs of Connecticut students. This team is comprised of representatives from the CSDE, the Regional Education Service Centers (RESCs), the State Education Resource Center (SERC) and various local education agencies. The leadership team is responsible for facilitating dialogue and coherence among and across agencies, gathering stakeholder input, including input from families, and developing a support plan for the implementation of this framework across the state.

Roundtable Discussions. During the summer of 2006, the CSDE and SERC conducted a series of roundtable discussions on Response to Intervention (RTI). The participants included district and school administrators, general and special educators, higher education faculty members, families, representatives from the Governor's Office, and a variety of stakeholder organizations in Connecticut. Input from roundtable participants on four specific aspects of RTI was sought: universal screening, **progress monitoring**, implementation fidelity and multitiered interventions. In preparation for the discussions, participants received a variety of print materials, including published studies and statements from professional organizations (e.g., NASDSE, 2005; O'Shaughnessy, Lane, Gresham and Beebe-Frankenberger, 2003). A number of broad themes emerged from the roundtable discussions, including, but not limited to: the importance of recognizing RTI as a general education initiative; the need for partnerships between general and special education; the significance of state, district and school leadership; the need for high-quality, research-based preservice preparation as well as ongoing professional development for teachers; the role of families and students as stakeholders along with educators and other professional groups; and the idea of learning from sites within Connecticut where many of the concepts behind RTI are already being implemented.

SRBI Advisory Panel. A proceedings document from the roundtable discussions was shared with an advisory panel appointed and initially convened in November 2006. The purpose of this panel was to review current research and practice on RTI to develop a framework for implementation in school districts across the state. The panel decided to refer to this process in Connecticut as SRBI (scientific research-based interventions) because the language is contained in both NCLB (Section 9101(37) of ESEA) and IDEA Regulations [Section 300.307 (a)(2)]. The use of SRBI, in place of RTI, is intended to emphasize the centrality of general education and the importance of using interventions that are scientific and research-based. It is important for school personnel to critically assess their current programs and practices by researching and gathering evidence as to their effectiveness.

Specific charges to the SRBI Advisory Panel involved establishing a working definition of SRBI, and providing guidance to school district personnel on best practices in developing interventions for students experiencing learning or behavioral difficulties. Members of the panel were appointed by Interim Commissioner of Education George A. Coleman and involved representatives from a variety of stakeholder groups, including early childhood educators, K-12 general and special educators, higher education faculty members, district and school administrators, and representatives from the CSDE, RESCs and SERC (see Appendix I for a complete list of panel members). The panel was co-chaired by CSDE Associate Commissioners George Dowaliby and Frances Rabinowitz, representing both special and general education respectively. Panel members read a wide range of materials relevant to SRBI, such as published studies, position statements and practical implementation manuals. They met regularly to discuss these materials, as well as key issues for Connecticut schools in implementing SRBI and how best to provide guidance to school personnel. Meetings occurred approximately once a month from November 2006 to June 2007. The final outcome of the work of the panel was an Executive Summary (see www.sde.ct.gov/sde/lib/sde/pdf/Pressroom/RTI_Executive_Summary.pdf) and this publication, which is designed to assist school personnel and families in understanding and implementing SRBI.

Best Practice Sites Supported by State Personnel Development Grant (SPDG). In the spring of 2007, SERC, in collaboration with the CSDE, awarded four three-year grants with funds from the Office of Special Education Programs (OSEP), to assist with the expansion of early intervening services – a school improvement strategy designed to proactively provide appropriate services to all students who may be struggling – in Connecticut's schools. Schools with strong early intervening services provide students with the supports they need to experience success, rather than waiting to address a concern after it has become more significant.

Greene-Hills and Ivy Drive elementary schools in Bristol, Two Rivers Magnet Middle School of CREC, Hamilton Avenue Elementary School in Greenwich and Regan and Wendell Cross elementary schools in Waterbury were selected to serve as "model sites" due to their high level of use of **differentiated instruction** and early intervention, designed to meet the needs of all students and frequent monitoring of student progress, enabling educators to make informed educational decisions. These schools will facilitate district expansion of evidence-based practices and partner with schools from other districts that are interested in the provision of a continuum of educational opportunities for all students. The ultimate goals of the grant are to "scale-up" the implementation of effective prevention and early intervention practices across the state and build the capacity of local school districts to sustain these practices in future years.

On What We Can Build

The terms Scientific Research-Based Interventions (SRBI) and Response to Intervention (RTI) may be new to many readers of this document. However, numerous elements underlying SRBI, such as research-based instruction and early intervention, are very familiar to most educators, who already engage in some of these practices. SRBI fosters coherence of these practices increasing their impact on improving student outcomes. Furthermore, Connecticut has a history of embracing educational policies and initiatives that are highly consistent with the basic principles of SRBI. These policies and initiatives provide a foundation for the implementation of SRBI.

Early Reading Success Initiative. In 1998, the Connecticut General Assembly passed Public Act 98-243, *An Act Concerning Early Reading Success*. Early Reading Success (ERS) legislation required every school district in Connecticut to have a reading plan in place to improve the reading skills of students in kindergarten through third grade, with funds provided to priority school districts for early intervention in reading. Additional state legislation the following year (Public Act 99-227) provided for teacher professional development in reading and required the appointment of an Early Reading Success Panel to examine research on reading, with the charge of specifying the skills and knowledge needed by all K-3 teachers in Connecticut to teach reading effectively. *Connecticut's Blueprint for Reading Achievement* (Connecticut State Department of Education, 2000) was the report of this panel. (Connecticut General Statutes Sections 10-221j-m).

The Early Reading Success initiative is an important precursor to SRBI for at least two reasons. First, the ERS initiative established that early intervention, ongoing assessment of student progress, and avenues for additional help for students experiencing difficulty must all be part of the general education system;

students should not have to be referred to special education in order to have their progress assessed or to receive instructional support in the area(s) of need. Second, ERS emphasized that teacher knowledge and skills are key influences on student outcomes. Other factors certainly influence student achievement, but unlike some of these other factors, teacher effectiveness can be changed and improved through high-quality preservice preparation and opportunities for ongoing professional development. Although the ERS initiative focused on reading, its assumptions about the importance of effective general education practices are equally applicable to other domains of schooling, including math, writing, content area subjects, social-emotional learning and behavior.

1999 Connecticut State Guidelines for Identifying Children with Learning Disabilities. A 1999 revision (CSDE, 1999) of original state guidelines for identifying students with learning disabilities (LD) also laid important groundwork for SRBI. These 1999 guidelines recognized research (Fletcher et al., 1994; Lyon, 1996; Spear-Swerling and Sternberg, 1996) indicating that students sometimes are inappropriately identified as having learning disabilities when the actual problem involves lack of appropriate instruction (e.g., due to inadequate practices in general education, lack of implementation fidelity or intensity, limited instructional time). In addition, the 1999 guidelines noted the requirements of PA 98-243 regarding the responsibilities of the general education system to provide opportunities to assist students experiencing difficulty in reading or math. In order to ensure that the identification of students with LD was not the result of a lack of appropriate instruction, the guidelines contained detailed reading and math worksheets designed to ensure that students received appropriate classroom instruction and intervention prior to referral for evaluation of a suspected learning disability.

A severe IQ-achievement discrepancy continued to be required for identification of LD in the 1999 state guidelines, consistent with federal law (IDEA 1997) at that time. A severe IQ-achievement discrepancy means that, in order to identify a student as having a learning disability, the student's achievement must be substantially lower than his or her score on an IQ test. However, the CSDE recognized many challenges with the use of an IQ-achievement discrepancy as described in the previously mentioned research; the issues will be discussed in further detail later in this document. The 2004 reauthorization of IDEA allows the use of a RTI (SRBI) process as part of the evaluation procedures for determining if a student has a specific learning disability. An upcoming revision of *Connecticut State Guidelines for Identifying Children with Learning Disabilities* will reflect these changes in IDEA 2004 by requiring SRBI as part of the procedures for the identification of LD. It is anticipated that the revised guidelines will eliminate the discrepancy requirement as of July 1, 2009.

Early Intervention Project. A 2000 Harvard study (Losen and Orfield, 2002) raised concerns about significant disproportionality in special education classification across the country, including Connecticut. Disproportionality occurs when a racial, ethnic or gender group is represented in special education at a significantly different rate than the group's proportional enrollment in the general school population. For example, nationally, black students are 2.41 times more likely to be identified as having intellectual disabilities and 1.68 times more likely to be identified with emotional/behavioral disabilities than are white students (Blanchett, 2006), and these disparities remain even after accounting for socioeconomic differences between racial groups (Losen and Orfield, 2002; Harris and Klingner, 2005). Since 2002, the CSDE has focused on the issue of overrepresentation of black and Hispanic students in

special education. Through the ongoing analysis and public display of data and the provision of professional development through yearly Summits, Connecticut's data for overrepresentation has decreased statewide. Whereas Connecticut black and Hispanic students were more than three to four times as likely to be identified with intellectual or emotional disabilities, data from the 2007-2008 school year indicate this number has decreased to less than twice as likely. Additionally, since 2004 SERC has assisted school district personnel with the examination of perpetuating beliefs and practices that have contributed to the racial predictability of student achievement through Courageous Conversations about race (Singleton and Linton, 2005). This will continue to be a top priority for Connecticut educators and policy makers until data demonstrate all students have access to equitable educational experiences.

One key policy recommendation of research on disproportionality in special education has involved the importance of early intervention (National Research Council, 2002). The Early Intervention Project (EIP) was initiated by the CSDE in 1984, with the general aim of empowering educators to meet the instructional and behavioral needs of students in the general education classroom; specific goals of EIP included reducing the number of inappropriate referrals to special education and inappropriate special education classification of students, especially those from minority groups. School-based early intervention teams engage in collaborative, strategic decision making to plan and monitor interventions for groups of students who are struggling with similar concepts or skills and for individual students who need more intensive support.

The project was closely re-examined in 2003 after results of the Harvard study suggested ongoing problems with disproportionality in Connecticut and other states. Some important lessons emerged from that process about how to implement and sustain effective early intervention in schools that can contribute to the successful implementation of SRBI. For example, in order to ensure that early intervention efforts are maintained as a function of general education and not impeded by notions of prereferral, the involvement of general educators as an integral part of the early intervention process is vital, as is committed leadership at the building level. Furthermore, reflective practice and job-embedded professional development, fostered in EIP, are consistently proving to result in refinement and enhancement of instructional practice. It also has been found that interventions identified by early intervention teams often only mirror good teaching practices or general accommodations that have already been tried versus research-based, high-quality interventions. The use of research-based interventions matched to specific student needs, as well as ensuring that interventions are implemented as intended, must be emphasized to enhance student learning (see www.ctserc.org/eip/index.shtml).

School-Wide Positive Behavior Support. Like SRBI, School-wide Positive Behavior Support (SWPBS) involves a proactive, comprehensive and systemic continuum of support designed to provide opportunities to all students, including those with disabilities, to achieve social and learning success. SWPBS is not a curriculum, but rather a systems approach to enhance the capacity of school and district personnel to adopt and sustain the use of effective behavioral practices and organizational processes. SWPBS also attempts to improve the overall school climate, maximize academic achievement for all students, and address the specific needs of students with severe behavioral difficulties. SWPBS is characterized by the systematic integration of (a) team-based and data-driven decision making, (b) data-based and measurable outcomes, (c) outcome-linked and evidence-based behavioral interventions, and

(d) formalized and systemic support for implementers (Sugai et al., 2000). SWPBS seeks to establish a comprehensive, integrated continuum of evidence-based behavioral interventions, usually via three unified prevention tiers, that addresses the needs of all students. Particular attention is paid to three systemic outcomes: high fidelity of intervention implementation, efficient and sustained intervention implementation over time and systemic and controlled expansion across schools and districts. The larger goal is to establish sufficient capacity to maintain high **fidelity of implementation** in the long term and enable continuous regeneration of effective, efficient and relevant practices.

When SWPBS is implemented with fidelity, improvements have been documented in a number of areas, including the following: (a) decreases in office discipline referrals for major rule violations from 40 to 60 percent; (b) improvements in students' academic achievement, especially in early literacy; (c) increases in staff perceptions of school safety; and (d) enhanced specialized behavior support for students whose behaviors are not responsive to classwide behavior management practices (Fairbanks, Sugai, Guardino, and Lathrop, 2007; Horner et al., in press; Sadler and Sugai, in press; Safran and Oswald, 2003; Sugai and Horner, 2007).

SWPBS implementation in Connecticut is supported by three main entities: SERC's Positive Behavior Support (PBS) Initiative (see www.ctserc.org/pbs/); the National Center on Positive Behavioral Interventions and Supports (see www.pbis.org), funded by the Office of Special Education Programs, U.S. Department of Education, which provides technical assistance to districts and states across the country; and the Center for Behavioral Education and Research (see www.cber.org) in the Neag School of Education at the University of Connecticut.

Reading First. Reading First, as authorized by the No Child Left Behind legislation under the Elementary and Secondary Education Act, as amended, Title I, Part B, Subpart 1, provides formula grants to states that submit an approved application. In turn, State Education Agencies (SEAs) award subgrants to eligible Local Education Agencies (LEAs) on a competitive basis. SEAs fund those proposals that show the most promise for raising student achievement and for successful implementation of reading instruction, particularly at the classroom level. The CSDE established the Connecticut Reading First Program to provide the support necessary to eligible LEAs to ensure that all children in the neediest schools are able to read well and independently by the completion of Grade 3. The program focuses on increased professional development to ensure that all teachers of children in grades K-3 understand, apply and integrate scientifically based reading strategies into classroom practice so that every child learns to read. The activities funded through the Reading First Schools Grant Program integrate scientifically based reading research (SBRR) into: instructional practices; professional development; and effective schoolwide change processes, permanently shifting a school's culture and instructional leadership to incorporate evidence-based literacy instruction into daily practice providing a strong foundation for the implementation of SRBI. For additional information, see www.ed.gov/programs/readingfirst/support/index.html.

Recognition and Response Initiative. Recognition and Response (Coleman, Buysse, and Neitzel, 2006) is an application of RTI (SBRI) in programs serving preschool children 3- and 4-years of age. Recognition and Response stresses the use of high-quality, research-based early childhood curriculums; universal

assessment and monitoring of the progress of all children; early identification and remediation to address potential learning or behavioral difficulties; and tiers of increasingly intensive research-based intervention. Recognition and Response is consistent with various practice guidelines and standards, such as those of the National Association for the Education of Young Children (NAEYC), the Division of Early Childhood (DEC) and Head Start (see www.recognitionandresponse.org/content/view84/95/).

Through a competitive grant from the Emily Hall Tremaine Foundation, the CSDE and SERC are implementing Recognition and Response in fifteen early childhood programs across the state. A train-the-trainers model is used to provide training and technical assistance to early childhood programs in the implementation of Recognition and Response and to ensure fidelity of implementation. The main focus of the training and technical assistance is on linking standards, curriculum and assessment, a cycle of intentional teaching, to ensure that all children are attaining and applying age-appropriate knowledge and skills, including essential preacademic skills. Connecticut's Preschool Curriculum Frameworks (PCF) document establishes the learning standards and outcomes for children receiving a high-quality preschool experience. Connecticut's Preschool Assessment Framework (PAF) is the tool used to assess a child's status, measure her/his ongoing progress, and guide teaching and learning through the preschool years. Children identified as not making expected progress are identified and a variety of strategies, activities and efforts are focused on ensuring their success. For example, the PAF allows teachers to identify children's skill acquisition in: recognizing similar sounds in speech by creating rhymes and substituting initial sounds in spoken words (e.g., phonological awareness), understanding several aspects of a story they have just heard (e.g., story retell), using complex sentences and vocabulary to describe ideas and experiences (e.g., vocabulary development), showing and understanding that print conveys a story or meaning by pointing to printed words and writing messages using letter-like shapes and some conventional letters (e.g., print awareness). When a child's performance in speaking, reading and writing are not meeting benchmark expectations, a variety of instructional strategies can be used to respond to her or his individual needs. Successive implementation of a three-tiered approach ensures more targeted, intensive and robust interventions to address a child's needs. The PCF and PAF are being utilized in early childhood programs throughout the state, including those that receive federal and/or state funds.

Haskins Literacy Initiative. The Haskins Literacy Initiative is affiliated with Haskins Laboratories, a private, non-profit, internationally recognized research facility founded in 1935. The focus on research at Haskins involves speech, language and literacy (see www.haskins.yale.edu/hli/index.html). The literacy initiative provides scientific, research-based professional development to in-service teachers in numerous participating Connecticut schools. Goals of the initiative are to improve reading instruction for all students and to develop effective, "method-proof" teachers (i.e., teachers who can teach reading successfully with a wide variety of programs and curriculums); an identified need for the effective implementation of SRBI. The Haskins Mastering Reading Instruction (MRI) project, part of the Haskins Literacy Initiative, compares the effects of different models of professional development on both teacher knowledge and student reading skills.

Differentiated Instruction. Differentiated instruction is an approach to teaching that maximizes the progress of all students within the general education setting by addressing critical differences among

students, for example, through the use of **flexible grouping**, different instructional materials or different ways of presenting the same content (Tomlinson and McTighe, 2006). With differentiated instruction, teachers address a range of learning needs by adapting instruction or instructional materials in a variety of ways, rather than expecting all students to learn from the same style of teaching. Instructional activities and materials are varied by students' preferred ways of learning or expressing themselves in response to students' interests or by difficulty level to challenge students at different stages of achievement. In collaboration with the CSDE, the Differentiated Instruction Initiative at SERC assists educators in designing and implementing this type of instruction
(see www.ctserc.org/initiatives/teachandlearn/integrated.shtml).

Connecticut Accountability for Learning Initiative (CALI). CALI is a comprehensive accountability initiative to accelerate the learning of all students, with special emphasis placed on districts with Title I schools that have been identified as being "in need of improvement," according to No Child Left Behind (NCLB). A primary goal of CALI involves closing the achievement gaps in Connecticut schools. The CALI model is based on the findings of researchers such as Reeves (2002); Marzano, Pickering and Pollack (2001); Blum (2005); Blum, McNeely and Rinehart (2002) whose work suggests ways that schools can be very effective in helping culturally and linguistically diverse learners and low-income students achieve at high levels of academic performance. Among other practices, CALI highlights the assessment of all students' progress on a regular basis, using assessments that inform instruction; data-driven decision making; clear, specific, measurable goals for student learning; a systemwide approach to both assessment and instruction; the use of research-based instructional strategies; improving school climate to increase connectedness of students and the use of data teams to collect, analyze and use data to improve instruction and curriculum. The recommended research-based practices of CALI are aligned with the critical elements of SRBI (see Appendix II). Districts pursuing the implementation of these practices, as part of their school improvement efforts, are positioning themselves well for the implementation of SRBI (see www.sde.ct.gov/sde/cwp/view.asp?a=2618&Q=321754).

Connecticut Accountability Legislation. In response to Sec. 32-33 of Public Act 07-3, *An Act Implementing the Provisions of the Budget Concerning Education* (Section 10-223e of the 2008 supplement), newly defined efforts by the CSDE have focused on school and district improvement relative to increased positive outcomes for all students. These efforts, along with new authority vested with the State Board of Education, require districts to examine teaching and learning practices for its students, develop interventions in response to students' needs, and use data to effectively monitor student, school and district progress towards desired outcomes. *An Act Concerning Changes to the Education Statutes* (Public Act 08-153) added additional provisions which permits the State Board of Education to require boards of education to undergo training to improve their operational efficiency and effectiveness and require training and technical assistance for parents as accountability actions the State Board may take to improve student performance to remove a school or district from the list of schools or districts designated as low achieving. The CSDE has established comprehensive systems of monitoring and accountability that support improved outcomes for all students and incorporates the monitoring of the IDEA standards that impact the performance of students with disabilities. These accountability systems are consistent with the guidance and direction that are presented in this publication.

Moving Forward

The logic underlying SRBI can do more than enable schools to meet the challenges of NCLB and IDEA 2004; SRBI can revolutionize how schools do business and provide a comprehensive, high-quality system of education for all students. For example, high as well as low achievers will benefit from research-based general education curriculums; differentiation of instruction; maintaining a physically, social-emotionally, and intellectually safe and respected climate; a comprehensive system of social-emotional learning and behavioral supports; and data-driven decision making. In addition, the logic of SRBI can benefit special as well as general education practices, by providing timely intervention matched to students' needs, ensuring that students with disabilities are appropriately identified, and maintaining special education services for students who genuinely require them.

The next section of this document will provide an overview of SRBI through a broad definition of SRBI and its critical features. Then, a three-tiered model for implementing SRBI is described in detail, followed by a section on key factors needed to make SRBI work, such as effective school and district leadership. A concluding section provides some answers to frequently asked questions about SRBI. The glossary contains definitions of the bolded words or phrases within text in this publication.

Although this document is intended to assist key stakeholders with the implementation of SRBI, it is not a complete "how-to" manual or an exhaustive discussion of all possible issues related to SRBI. Members of the SRBI Advisory Panel wished to provide helpful information and direction without being unduly prescriptive, or by overwhelming readers with detail. Readers are encouraged to pursue the many references cited here for additional information, and to employ this document as a general guide in the implementation of SRBI.

Broad Definition

Scientific Research-Based Interventions (SRBI) emphasize successful instruction for all students through high-quality **core general education practices**, as well as targeted interventions for students experiencing learning, social-emotional or behavioral difficulties. Core general education practices include comprehensive curriculums in key academic areas, effective instructional strategies, creation and maintenance of a positive and safe school climate, and a comprehensive system of social-emotional learning and behavioral supports (Bluestein, 2001; Greenberg et al., 2003; Wessler and Preble, 2003). Interventions are scientific and research-based as much as possible (i.e., to the extent that research exists to inform their selection or development). The focus of SRBI involves instruction and interventions in general education at the onset of concern about student performance. However, professionals who provide special education play a vital role in serving as a fundamental resource for general educators in implementing SRBI and in helping to meet the needs of students with disabilities. Key elements of SRBI include the following:

- Core general education curriculums that are comprehensive in addressing a range of essential competencies in each academic domain, culturally relevant and research-based to the extent that research exists to inform their selection or development

- A schoolwide or districtwide **comprehensive system of social-emotional learning and behavioral supports**

- Strategies for assuring that educators are modeling respectful and ethical behaviors, fostering student engagement and connectedness to school, and assessing the quality of the overall **school climate** so that students experience physical, social-emotional and intellectual safety

- The use of research-based, effective instructional strategies both within and across a variety of academic domains

- Differentiation of instruction for all learners, including students performing above and below grade-level expectations and English language learners (ELLs)

- Universal common assessments of all students that enable teachers to monitor academic and social progress, and identify those who are experiencing difficulty early

- Early intervention for students experiencing academic, social-emotional and/or behavioral difficulties to prevent the development of more serious educational issues later on

- Educational decision making (academic and social/behavioral) driven by data involving students' growth and performance relative to peers; data are carefully and collaboratively analyzed by teams of educators (e.g., data teams, early intervention teams), with the results applied not only to inform instruction for individual students, but also to evaluate and improve core general education practices and the overall efficacy of interventions

- A continuum of support that is part of the general education system, with increasing intensity and/or individualization across multiple tiers

- A systemic schoolwide or districtwide approach to core educational practices in which teachers within a grade use the same **common formative assessments** for all students (academic and social/behavioral), address the same curricular and social-emotional competencies, and share the same behavioral expectations; assessments, curricular and social-emotional competencies and behavioral expectations also are well-coordinated across all grades

Underlying Principles and Critical Features of SRBI

Scientific Research-Based Interventions (SRBI) encompass behavior and social-emotional functioning as well as an array of academic domains (e.g., reading, writing, mathematics) central to students' school progress. The most extensive research base for RTI (SRBI) involves primary grade reading, where numerous studies (Al Otaiba, 2001; Denton, Fletcher, Anthony and Francis, 2006; Speece et al., 2003; Vaughn, Linan-Thompson and Hickman, 2003; Vellutino and Scanlon, 2002; Vellutino et al., 1996) have suggested that RTI (SRBI) can greatly improve reading instruction for all students, provide intervention for students experiencing difficulty learning to read, and enable many, though not all, students at-risk of reading failure to reach grade expectations over the short term. Because these approaches involve ongoing monitoring of an entire school population, with data-driven decision making and **decision rules**, they also appear to be less biased with regard to race, ethnicity and gender than previous methods of identifying struggling readers (Speece et al., 2003).

For example, although serious reading difficulties occur roughly as often in females as in males, males' reading difficulties are more often identified in traditional educational practice (Shaywitz, 2003). The reason for this gender difference appears to be that males are more likely to draw attention to their learning difficulties by acting out behaviorally---or at least, more likely to be perceived by their teachers as "behavior problems." However, if all students' progress is being monitored on a regular basis, students do not have to "act out" in order for their difficulties to be detected early. Likewise, Speece et al. (2003) found that a traditional method of identifying reading disabilities, involving a discrepancy between IQ and achievement, was biased heavily toward identification of white students, whereas the use of RTI (SRBI) reflected racial as well as gender equity.

Emerging applications of SRBI involving writing (Berninger and Amtmann, 2003) and mathematics (Fuchs, Fuchs and Hollenbeck, 2007) suggest some advantages of RTI (SRBI) in these domains similar to those in reading. Furthermore, the basic principles and key features of SRBI are relevant across all grades, from pre-kindergarten through Grade 12, and across a variety of domains, including content

subjects such as science and social studies; quality of school climate; children's early development, such as oral language acquisition; and behavior and social-emotional learning. These basic principles and features include the following:

1. **The assumption that scientific research should be used to inform educational practice as much as possible.** An extensive research base exists in numerous domains central to school success, including reading, many aspects of mathematics, oral language and social-emotional development. It makes sense to use this research base to inform educational practice. The Institute for Educational Sciences, What Works Clearinghouse (www.whatworks.ed.gov), the Florida Center for Reading Research (www.fcrr.org), the Collaborative for Academic, Social and Emotional Learning (www.casel.org) and the Center for Social and Emotional Education/National School Climate Center (www.nscc.csee.net) are excellent resources for educators and families to examine current practices. However, educational decisions cannot always be made with reference to research findings, because in some areas, research is limited or nonexistent. For example, much can be learned by observing in schools and classrooms where culturally and linguistically diverse students excel as readers. Findings from this type of research are valuable "evidence" that should count as a validation of the effectiveness of practices. (Klingner, Sorrels and Barrera, 2007).

2. **A belief in collective responsibility, accountability and the power of education.** Many educational change efforts appear to stall or to come to a halt because educators are unwilling to assume responsibility for students' low achievement and failure (Garcia and Guerra, 2004). Working toward systemic change in low-performing schools, Berman et al. (1999) found that efforts to raise achievement were hindered by districts' and educators' tendencies to place the problem within the student (and family) or within the school, without examining the links between school practices and student outcomes. Although there are important individual differences among students, all students are capable of continued learning and progress. Effective educational practices have the power to make an enormous impact on student learning. All educators in a school – classroom teachers, administrators, specialists – share responsibility and accountability for ensuring that every student receives the most effective education possible by implementing scientific research-based interventions and replicating evidence-based practices.

3. **A willingness to be transparent with a relentless focus on continuous improvement.** There is insufficient exploration of the institutional and individual practices, assumptions and processes that contribute to poor student performance (Valencia, Valenzuela, Sloan and Foley, 2001). There are some educators that believe that the students and the families are at fault because, from their perspective, "these children" enter school without the necessary prerequisite knowledge and skills, and that so-called "uncaring parents" neither value nor support their child's education (Betsinger, García and Guerra, 2001; Valencia, Valenzuela, Sloan and Foley, 2001). Because these educators do not view themselves as "part of the problem," there is little willingness to

look for solutions within the educational system itself. When using SRBI, student assessment data are analyzed openly and collaboratively by teams of educators. When individual students or groups of students are not doing well, the emphasis is on self-reflection and examination of current curriculums, instruction and learning environments to make improvements, rather than on apportioning blame. Transparent communication and collaboration must extend beyond the four walls of the school. For example, grade-level expectations (see www.sde.ct.gov/sde/cwp/view.asp?a=2618&Q=320954&sdenav_gid=1757) for students, results of assessments, and analysis of findings should be shared with families on a regular basis.

4. **A focus on prevention and early intervention.** Prevention of and early intervention for school failure clearly are more cost-effective, as well as more humane, than allowing serious problems to develop and trying to remediate those problems later (Connecticut Early Childhood Education Cabinet, 2006). In beginning reading, for example, there is a voluminous research base that can greatly assist prevention and early intervention efforts (National Research Council, 1998; National Reading Panel, 2000). However, prevention and early intervention are concepts that pertain to all grade levels and domains, not only early reading. For example, some students are quite successful in the elementary grades, only to experience difficulty at the middle or secondary levels (Snow et al., 1991); prevention and prompt intervention at upper-grade levels can lead to better outcomes for these students. In all grades and domains, prevention requires high-quality general education curriculums, instruction, a positive and safe school climate, and a comprehensive system of social-emotional learning and behavioral supports. Moreover, this kind of general education system benefits all students, including high as well as low achievers. Prevention also requires actively seeking out students who are at risk for future academic or behavioral problems and providing early intervention to all students who need it. Interventions involve explicit teaching in a student's focus area(s) needing improvement, improving the school climate or directly addressing the function of a student's inappropriate behavior, for example, through social skills training. Simply repeating the same curriculum and instruction with which the student has already failed, such as retention in grade, or superficial classroom accommodations (e.g., changes in seating arrangements, reduction in number of assigned math problems) do not constitute interventions. Similarly, since suspension and expulsion are ineffective interventions for students with perceived behavioral difficulties; alternatives to suspension and expulsion are essential (Skiba and Peterson, 2000).

5. **Schoolwide or districtwide high-quality core curriculums, instruction and comprehensive social/behavioral supports.** SRBI are systemic, requiring the leadership of school and district administrators such as superintendents, principals and supervisors to communicate a clear vision and coherent plan for improved student outcomes. Individual teachers are not individually responsible for devising their own curriculums or comprehensive systems of social-emotional learning and behavior supports. Rather,

school and district personnel support and collaborate with teachers in their academic missions in the development of high-quality curriculums and materials, fostering a positive school climate in which all members of the school community treat one another respectfully, as well as in effectively addressing students' behavioral and social-emotional needs through a schoolwide, comprehensive system of social-emotional learning and behavioral supports. This **systemic approach** ensures that all teachers are working toward common goals and that all students receive instruction in the same core competencies regardless of which teacher they happen to have. Without this kind of approach, no matter how competent and hardworking individual teachers may be, the lack of coordination and consistency across classrooms or grades may render the educational system ineffective for many students.

Curriculums, materials, climate and programming for social-emotional learning and behavioral supports may involve published programs or may be developed by the individual district. But, in either case, all are supported by research findings to the greatest extent possible. Curriculums comprehensively address the abilities that research has shown to be important to achievement in a given domain. For example, in primary-grade reading, those abilities include phonemic awareness, phonics, fluency, vocabulary, and both reading and listening comprehension (National Reading Panel, 2000); and in social-emotional learning the essential assets include self-management, social awareness, relationship skills, and responsible decision making (Collaborative for Academic, Social and Emotional Learning, 2003). Important skills and knowledge are taught explicitly and systematically, and there is reasonable differentiation of instruction, such as through the use of flexible grouping practices and varied ways of presenting the same content. Furthermore, teachers employ instructional and behavioral strategies that research has shown to be effective within and across a variety of domains, such as identifying similarities and differences, reinforcing effort and providing recognition, and setting objectives and providing feedback (Marzano, Pickering and Pollock, 2001).

6. **Monitoring fidelity of implementation.** Fidelity of implementation is crucial both to the success of the core general education program and to the success of interventions. Fidelity of implementation refers to teachers' use and delivery of curriculums, instructional strategies, strategies to foster a positive school climate, social/behavioral supports and interventions in the manner in which they were designed and intended to be used. For example, teaching specific lessons in a particular sequence is important with most curriculums because foundational concepts or prerequisite skills are taught before more complex concepts and skills. Similarly, it also is critical to adhere to the treatment time, use of appropriate materials and other key features required for a given intervention. Failing to implement a high-quality, research-based curriculum or intervention with fidelity is like buying a car with high-quality safety features and then neglecting to wear a seat belt; no curriculum, climate, behavioral system or intervention can be maximally effective without fidelity of implementation. Monitoring fidelity of implementation, therefore, is essential. If fidelity is lacking, the reason should be

determined and addressed through coaching, additional professional development, necessary changes in curriculum or materials, or through other appropriate means.

7. **Culturally responsive teaching.** Many different cultures and languages may be represented in a single school or classroom. Culturally responsive teaching (Gay, 2000; Ladson-Billings, 1994) is important to address the needs of a wide range of students and to enable all students to have the opportunity to succeed. Consideration of the diversity of the student population and providing teaching that takes into consideration cultural differences within the classroom also are part of IDEA 2004 requirements. Furthermore, *Connecticut State Guidelines for Identifying Children with Intellectual Disability* (CSDE, 2007b) specifically require culturally responsive pedagogy as a prerequisite for appropriate identification of intellectual disability, along with effective instruction and early intervening services.

   Gay (2000) defines culturally responsive teaching as "using the cultural knowledge, prior experiences and performance styles of diverse students to make learning more appropriate and effective for them" (p. 29). Characteristics of culturally responsive teaching include positive perspectives of families and parents, communication of high expectations for all students, the inclusion of knowledge that is relevant to students, and the understanding that learning occurs within the context of culture (Teaching Diverse Learners, 2007). Culturally responsive teachers are conscious of their own culture/racial identity, attitudes and biases, and how they affect teacher-student relationships and influence teaching practices. Culturally responsive teachers also are interested in gaining knowledge about the cultures represented in their classrooms and using that knowledge to help bridge cultural differences, for example, by varying teaching strategies, attending and discussing community events, and showing students how cultural diversity can enrich classroom learning. Cultural diversity is often accompanied by linguistic diversity, as when children are English language learners or speak varieties of English that differ from the academic language typically used in school (Cummins, 2001). Teachers need knowledge about the power of linguistic difference and language acquisition. Teachers can build on students' use of language and facilitate students' learning of academic English without conveying negative attitudes toward students' native dialect, language or culture.

   In their review of the empirical literature about teachers' expectations, Good and Nichols (2001) offer that teachers' beliefs and behaviors relate to student performance. For example, these researchers report studies that show black students receiving lower teacher evaluations than white students despite higher test scores, as well as studies indicating that black students, especially males, receive lowered academic scores because of classroom conduct. These authors also note other research indicating that over time, students whose teachers perceive as less capable begin to ask fewer questions in class, an outcome that suggests that the students are learning "their place." Students frequently internalize these labels and embark on a cycle of increasingly poor academic performance or disruptive actions. Affirming teachers, however, hold high

standards for their students, and they expect their students to improve academically and conduct themselves appropriately. Teachers typically find that their students take pride in these expectations and respond accordingly (Ladson-Billings, 1994).

With culturally responsive instruction, assumptions and stereotypes do not prevail and all students entering school are assessed on a broad range of skills so gaps are accurately identified early. Interventions are designed and delivered with a sense of urgency that will ensure all students are on a trajectory for success as evidenced by data. These interventions are especially urgent in the primary grades when considering research that indicates that students who fail to reach grade level in reading by the end of third grade are unlikely to ever catch up (Juel, 1988). Students at-risk of reading failure need the best possible instruction at the earliest point in time (Lyon and Fletcher, 2001).

To be successful in teaching culturally and linguistically diverse students with and at-risk for disabilities, teachers need to master the skills of effective instruction. Empirical evidence indicates that the strategies that provide for clearly specified goals, high rates of academic responding, and progress monitoring are effective and particularly valuable for culturally and linguistically diverse learners (Cartledge and Kourea, 2008). This evidence supports the importance of universal, effective **core practices** for all students using SRBI.

8. **A comprehensive assessment plan with universal common assessments and progress monitoring.** Just as core curriculums, climate and behavioral supports are systemic, the assessment plan for a school or district must be systemic as well. If individual teachers within a grade routinely employ different assessments of the same domain (e.g., math), then comparisons of the effectiveness of curriculums or instruction across classrooms would be impossible, like comparing apples to oranges. Likewise, if assessments are not consistent or coordinated across grades, it would not be feasible to track students' progress across grades. To be effective for monitoring progress, assessment tools must have certain characteristics. Among other qualities, they must be sensitive indicators of overall student growth, be **reliable** and **valid**, and be relatively quick and easy for educators to administer (Research Institute on Progress Monitoring, 2007). School and district assessment plans also must be comprehensive, including not only important academic and behavioral domains, but also several different types of assessments within each domain.

   Particularly critical to SRBI are **universal common assessments**: measures that are the same for (i.e., common to) all students within a grade in a school or district (i.e., universally) and that are administered to all of those students on a routine basis (e.g., fall, winter and spring), typically by general educators. Universal common assessments may be summative, employed mainly to assess cumulative learning at a particular point in time (e.g., district benchmark assessments); or formative, done during the process of

student learning primarily to inform instruction. Universal common assessments that are formative in nature receive much emphasis in SRBI, because these kinds of assessments are used to monitor the progress of all students, identify difficulties early, and help teachers differentiate instruction to meet individual student needs.

Finally, it should be noted that a comprehensive assessment plan includes some types of assessments that are not routinely given to all students, but rather given on a need-only basis, such as diagnostic assessments and comprehensive evaluations. **Diagnostic assessments** are used both by general educators and specialists to clarify and target the difficulties of individual students when the information provided by universal common assessments is not sufficient to do so. **Comprehensive evaluations** involve extensive formal testing by specialists, with substantial input from general educators including (but not limited to) the results of universal common assessments, and progress monitoring data to determine a student's eligibility for special education. Appropriate use of universal common assessments, especially those that are formative in nature, should help to reduce, but will not eliminate, the need for diagnostic assessments and comprehensive evaluations.

9. **Data analysis, not just data collection.** Collection of the assessment data described above is only a first step. To be useful, the data must be carefully analyzed and used to make improvements at multiple levels, including core curriculums or behavioral system, school climate, classroom instruction, differentiation of instruction within a classroom, and adjustments to interventions. This kind of data analysis is best done in teams (CALI, 2007). **Data teams** function at the level of the district, school and grade (or content area); they should include school administrators, content/grade-level general educators and specialists, such as special educators, bilingual educators, reading/language arts consultants, and behavioral/mental health personnel (e.g., school psychologists, social workers, guidance counselors, school nurses). School psychologists have the background knowledge and expertise in assessment, data analysis, consultation and intervention research that can be particularly useful to the work of data teams. Three essentials for data teams include adequate time for planning and collaboration that still protects teachers' instructional time, technological resources, such as computer software and Web-based services for data management and analysis, and a collegial working environment that is fostered through the collaborative examination of student work. Technology does not simply provide an easy way to store or manage information; it becomes a learning tool for use by data teams in determining how to maximize outcomes for all students.

10. **Data-driven decision making with clear decision rules.** Decisions about core curriculums, instruction, climate, behavioral systems and interventions are not driven by educational "philosophy" or the opinions of individuals. Rather, these decisions are driven by **data**, especially by student assessment data, with explicit rules for making decisions. For example, core curriculums, classroom instruction and the learning

environment should be successful for at least 80 percent of all students. If more than 20 percent of students are failing to achieve important outcomes and standards for a grade, the quality and fidelity of curriculums, classroom instruction and/or learning environment must be closely examined and improved. Similarly, a research-based, schoolwide system of social-emotional learning and behavioral supports should be effective for at least 80 to 90 percent of all students (National Technical Assistance Center on Positive Behavioral Interventions and Supports, 2007). Student assessment data also should drive decisions about professional development within a school or district. Specific areas where students demonstrate the greatest need (e.g., vocabulary development, computational skills, relationship building) would be the top priorities for teachers' professional development.

A Three-Tiered Model for Implementing SRBI

This section describes what SRBI will look like when implemented as a three-tiered model. Appendix III outlines a graphic representation of the model. In this figure, the largest part, the base, represents Tier I; the middle part of the figure represents Tier II; and the top of the triangular figure represents Tier III. Tier I represents the general education core curriculums, instruction (including differentiation of instruction), overall school climate and system of social-emotional learning and behavioral supports for all students. Tier II involves short-term interventions for students experiencing difficulties who have not responded adequately to the Tier I core curriculums and differentiation of instruction. Tier III involves more intensive or individualized short-term interventions for students who fail to respond to Tier II interventions. It must be emphasized that all three tiers are part of a comprehensive educational system involving scientific research-based core general education practices and interventions, with supports from a wide range of special services personnel. The tiers should not be viewed as "gates" to special education. Most students undergoing tiered interventions will not have disabilities and, if interventions are appropriately selected and implemented with fidelity, then most students should not require special education services. Students with disabilities will most often continue to receive multi-tiered interventions in coordination with their special education services.

The three-tiers, which are outlined in greater detail in this section, are intended to encompass all important academic domains (e.g., reading, writing, mathematics, content areas) from kindergarten to Grade 12, as well as attending to school climate, social-emotional learning and behavior. Furthermore, all of the underlying principles and key features of SRBI outlined in the previous section are applicable to preschool education, although expectations and appropriate educational practice will differ for preschoolers as compared with school-aged students. For example, an emphasis on research-based educational practice, prevention or intervening early, the use of appropriate common assessments (e.g., checklists, observations, work samples) to improve educational programs and plan interventions for children who need them, and the use of an intervention hierarchy, all are highly relevant to preschool education (Coleman, Buysse and Neitzel, 2006). The importance of the early childhood years as a foundation for later school achievement has been well documented (Connecticut Early Childhood Education Cabinet, 2006). Applications of SRBI in preschool education, known as Recognition and Response, are vital to meet the needs of as many children as possible through the general education system, help close achievement gaps, and prevent or ameliorate later learning and behavioral difficulties.

Tier I: Scientific Research-Based Core Curriculums, Instruction, and Social/Behavior Supports

Tier I Curriculums, Instruction, School Climate and Behavior System. Effective Tier I practices create a crucial base for the three-tiered model; the success of the other two tiers rests heavily on Tier I. Without Tier I practices that are effective for all students, inappropriately large numbers of students will require intervention, retention, suspension, expulsion or referral to special education. Effective implementation of Tier 1 practices is essential to document the provision of appropriate instruction, part of a comprehensive evaluation required by IDEA 2004 for the identification of a child with a learning disability. **Core curriculums and instruction** must be scientifically research-based and comprehensive, addressing competencies that research has shown to be important to students' achievement. For example, a primary grade reading curriculum must address phonemic awareness, phonics (word decoding), fluency, vocabulary, and both oral and reading comprehension. A primary grade math curriculum must include basic computational skills, math fluency (i.e., development of automatic recall of facts), important mathematical concepts, applications such as time and money, and problem-solving. A primary grade writing curriculum must address basic transcription skills and conventions of writing (e.g., spelling, handwriting, capitalization, punctuation); clarity, quality and elaboration of content; and editing and revision processes. Core competencies needed for social-emotional development include self-management, social awareness, relationship skills and responsible decision making (CASEL, 2003). Failure of the curriculum to address key competencies in different academic and social/behavioral domains is a frequent cause of ineffective Tier I practices. Additional details on how to select scientific research-based core curriculums will be discussed in the section "Making SRBI Work."

To support general educators in Tier I, specific curriculum **benchmarks** or student outcomes, which are reasonable for students to achieve by the end of the school year, should be provided by the school district and referenced regularly and consistently by all teachers. These student outcomes may be aligned with the standards in a particular local curriculum, which also should be aligned with state standards, curriculum guidelines and documents. For example, *Connecticut's Blueprint for Reading Achievement* (2000) and *Beyond the Blueprint: Literacy in Grades 4-12 and Across the Content Areas* (Connecticut State Department of Education 2007a) contain detailed student outcomes organized by grade level (K-12) for reading, spelling and writing. "Power or priority standards," that is, the most essential outcomes that prepare students for the next grade and provide leverage across domains, should receive the greatest emphasis. These essential outcomes are "unwrapped" by teachers as necessary to determine the specific skills and knowledge required for students to meet the standard (Connecticut Accountability for Learning Initiative, 2007; The Leadership and Learning Center, 2008).

School and district personnel not only must provide teachers with high-quality curriculums and specific academic benchmarks for students, but also with a comprehensive, schoolwide system of social-emotional learning and behavioral supports. This kind of comprehensive system is not limited to addressing overtly disruptive, noncompliant behaviors; it also attempts to promote a positive school climate and develop social-emotional skills that can impact students' motivation and achievement. This system should have a preventive and positive orientation, make use of empirically validated procedures,

and involve strong collaboration with community supports such as mental health agencies, juvenile justice and family services (Horner and Sugai, 2004). For example, there must be a common, agreed-upon approach to school climate and discipline, with schoolwide expectations clearly and positively stated; a continuum of procedures for encouraging appropriate behaviors and discouraging inappropriate ones; supervision of classroom and non-classroom areas such as hallways; and procedures for monitoring and evaluating the effectiveness of the behavioral system on a continuing basis (National Technical Assistance Center on Positive Behavioral Interventions and Supports, 2007). In addition to the behavior components, this system of supports needs to address the social-emotional development of all students so they can make responsible decisions, establish positive relationships, and confront the challenges that life will bring them in an effective, healthy manner (CASEL, 2003). Research has demonstrated that students who have developed these essential social-emotional skills show improved academic engagement and achievement (Hawkins, 1997; Malecki and Elliot, 2002). Furthermore, school-based mental health services may prevent emotional or behavioral difficulties in some students, while at the same time helping to promote the social-emotional health of all students (Kutash, Duchnowski, and Lynn, 2006).

High-quality curriculums and curricular benchmarks provide teachers with information about what to teach, but not how to teach. How to teach must be informed by research within specific domains, as well as by research on effective instructional strategies across domains. For example, research in the domain of reading has identified numerous instructional strategies and methods that are effective for teaching phonemic awareness, phonics, fluency, vocabulary and comprehension (National Reading Panel, 2000); this kind of research must be a foundation for high-quality reading instruction. Other research on effective instructional strategies (Ellis, 2005; Marzano, Pickering and Pollock, 2001; Reeves, 2002) tends to cut across academic domains and sometimes behavioral domains as well. For example, an effective instructional strategy such as setting objectives for student performance and providing explicit feedback can be applied in reading, writing, mathematics, a wide array of content areas and behavior. All instructional strategies must meet the standards outlined in the Connecticut Code of Professional Responsibilities (see http://www.sde.ct.gov/sde/cwp/view.asp?a=2613&q=321332).

In order to meet the needs of a broad range of students, ethical classroom teaching must be culturally responsive. When teachers convey openness toward and interest in children's cultural backgrounds, they communicate high expectations for all students and help all children meet important grade-level competencies. The Web site of the Education Alliance at Brown University (Teaching Diverse Learners, 2007) has a useful summary of characteristics of **culturally responsive teaching,** which include an understanding by teachers that culture is an important influence on learning, positive attitudes toward families and parents, the inclusion of knowledge that is relevant to students, and the use of teaching strategies that facilitate inclusion of students from diverse backgrounds, such as cooperative learning activities or student discussion groups.

Cultural diversity is frequently accompanied by linguistic diversity, therefore teachers also need knowledge about English language learners (ELLs) and varieties of English. For example, teachers should understand that varieties of English are rule-governed variants and not a language disorder. They also should recognize features of common varieties, especially those represented in their classrooms; be able

to differentiate language patterns from decoding mistakes, lack of letter-sound knowledge or other types of errors; and be able to facilitate students' acquisition of academic English without conveying disrespect toward students' native tongue or cultures. With regard to ELLs, teachers should recognize various language patterns typical of English language learners, such as acquisition of conversational language before more academic language; recognize the importance of information about native language development and competence as well as about students' competence in English; and know how to use sheltered English techniques, such as visual props and gestures, to facilitate students' learning of English. There is emerging research literature on English language learners that should be used to inform instruction with this subgroup (Francise et al., 2006; Genesee, Paradis and Crago, 2004; and Gerber and Durgunoglu, 2004). Although basic knowledge about culturally responsive teaching, language varieties and English language learners must be part of preservice teacher preparation, most in-service teachers will require additional professional development depending on the specific needs of the student population.

Tier I Interventions. General education classrooms are the first and most critical tier of "intervention" in the three-tiered model. High-quality curriculums and instruction in general education, together with a positive school climate and a continuum of social-emotional learning and behavioral supports, prevent learning and social/behavioral difficulties for many students. Differentiation of instruction is essential to address the wide range of achievement levels, as well as behavioral and social-emotional needs that can be found in any classroom. Differentiation of instruction is an approach to teaching that emphasizes ways to meet the varying needs of a group of students within the general education setting, rather than reliance on a "one size fits all" approach that expects all students to accommodate a single style of teaching. The use of flexible small groups can help in this differentiation, with various groupings providing opportunities for additional practice or explicit instruction in specific areas. For example, a sixth-grade math teacher might have one small group for students who need additional work on fraction computations, another group for students who need additional work on problem-solving, and yet another group for estimation. Individual students might move from one group to another over time, as their specific instructional needs change, and the teacher might adjust the focus of different groups depending on changes in students' needs. A large-group or whole-class format still can be employed for other parts of the math instructional block. Furthermore, flexible grouping can be used to address not only the needs of students experiencing difficulties, but also those of high-achieving students who are ready to move on to a more complex skill or to explore a particular mathematical topic in more depth than is usually provided by the curriculum.

Teachers' access to appropriate materials is vital to their ability to differentiate instruction. For example, in reading, teachers must be able to ensure students are reading from texts that are matched to their levels of reading ability during daily instruction. This matching requires access to texts written at a wide array of levels, because even in the earliest grades, there is great variability in students' reading achievement; a typical second grade classroom might contain some students who are emergent readers and others who are reading at a fifth grade level or even higher. At the secondary level, individual differences in students' reading achievement vary even more than in the primary grades and also impact performance in a wide range of content areas, necessitating texts written at a variety of levels in many subjects. Similarly, in mathematics and the sciences, teachers' access to appropriate

manipulatives and other hands-on learning materials (e.g., base-ten blocks, place value mat, laboratory equipment) is essential at all grade levels, including high school.

Within individual classrooms, student assessment data and observations should be used to guide and modify differentiation of instruction. In addition, teachers should consult with colleagues and with relevant specialists (e.g., certified reading/language arts consultants, ESL teachers, special educators, speech/language pathologists, school psychologists) to determine which additional instructional and/or behavioral strategies to employ with students who are struggling. Specialists in different areas can serve as key resources for classroom teachers seeking to help a student with a specific area of need. The consultation can occur on a one-to-one basis, or at grade-level team or department meetings. Thus, classroom teachers from the beginning of the year should use differentiated practices, ethical practices and social/behavioral supports, attempting to engage all students and to accelerate their learning.

Tier I Assessments. An essential first step in Tier I assessment involves obtaining or developing universal common assessments in important academic domains (e.g., reading, mathematics, writing), as well as in behavioral and social-emotional areas, that can be used as benchmarks. These assessments should be given at least three times per year to all students in a grade, in early fall, winter and spring. The benchmarks establish where students should be functioning at different points in the school year in order to be on target to attain grade-level competencies and standards by the end of the school year. **Benchmark assessment** data should document the adequacy of curriculums and instruction for most students, with individual students who fail to meet benchmarks considered for Tier II intervention. This kind of assessment system permits ongoing progress monitoring of all students, alerts schools when curriculum or instruction are not working for large numbers of students, and allows for changes in curriculum, instruction and learning environment, as well as intervening in a timely manner.

Selection of appropriate benchmark and progress monitoring assessments is vital to ensure that assessments are technically adequate (i.e., reliable and valid) and do not waste valuable instructional time. Most authorities recommend the use of **curriculum-based measures (CBMs)** to establish benchmarks and monitor student progress in Tier I (Brown-Chidsey and Steege, 2005; Fuchs, 2004; Hosp and Hosp, 2003; McCook, 2006). Curriculum-based measures can be developed by individual school districts; guidance for doing so can be found in McCook, 2006. However, for basic literacy and math skills, generic CBMs that are available commercially or for free download work just as well as locally developed measures (Brown-Chidsey and Steege, 2005). These types of pre-made CBMs cover the full elementary range, from kindergarten through Grades 6 or 8. The Web site of the National Center on Student Progress Monitoring (see www.studentprogress.org/) has an excellent technical review of these types of benchmarking and progress monitoring tools, with a chart showing examples of acceptable measures. Research at upper-grade levels is beginning to extend the development of CBMs to content subjects such as social studies and science (Espin, Busch, Shin and Kruschwitz, 2001).

It should be noted that both locally developed and generic CBMs are intended as general indicators of overall student competence in a domain, not as detailed assessments of specific student strengths and weaknesses. For example, CBMs for reading typically are fluency-based measures that involve briefly timing a student who is reading isolated words or passages aloud. The student's score is simply the

number of words read correctly within a given unit of time. CBMs provide a fast, easy, technically adequate (reliable and valid) way for teachers to track the progress of large groups of students. They are highly sensitive to student growth in overall reading competence (or overall math competence, in the case of math CBMs), as well as highly predictive of student's performance on standardized and **high-stakes testing** (Deno, 2003; Fuchs, 2004; Hosp and Hosp, 2003). The table below shows CBM oral reading fluency benchmarks for grades 1 through 3 from a study by Good, Simmons and Kame'enui (2001). Students who met the benchmark goal were very likely to meet or exceed the goal on the state-mandated assessment for reading comprehension:

Grade	**Progress Monitoring Measure**	**Benchmark Goal**
Spring of Grade One	CBM Oral Reading Fluency (words per minute correct in passages)	40 words per minute correct in first grade text
Spring of Grade Two	CBM Oral Reading Fluency (words per minute correct in passages)	90 words per minute correct in second grade text
Spring of Grade Three	CBM Oral Reading Fluency (words per minute correct in passages)	110 words per minute correct in third grade text

However, for individual students experiencing difficulty, additional information from diagnostic assessment might be necessary. For example, if a student is demonstrating difficulty with fluency as evidenced by a CBM oral reading fluency screening measure, a further analysis would be needed to determine if the student is experiencing difficulty with sight words, initial sounds, blends or multi-syllabic words, or if the child's difficulty is solely with speed, not accuracy, of reading. Further diagnostic assessment allows educators to know the specific skills that need to be explicitly taught in order to accelerate the child's reading progress.

Common formative assessments that are embedded in the curriculum also can be useful. For example, at the secondary level, earth science teachers could collaborate to develop a set of common formative assessments for all students that would tap the most essential concepts and competencies in that subject, in relation to state standards. These sets of assessments, designed as matching pre- and post-tests (i.e., the same assessment before and after instruction on a particular earth science topic or unit) would be administered several times during the school year. Matching pre- and post-assessments can be used to identify areas of weakness in curriculum or instruction, determine whether students have learned specific content, differentiate classroom instruction, and identify individual students in need of additional help. Further details about the development of these kinds of common formative assessments can be found at the Web site of the Connecticut Accountability for Learning Initiative (CALI), www.sde.ct.gov/sde/cwp/view.asp?a=2618&Q=321754&sdePNavCtr=|#45564.

Universal common assessments, whether they are generic CBMs, locally developed CBMs or curriculum-embedded measures, may be part of a locally designed portfolio system. This system also could include other types of student data, such as work samples, essays, projects and **summative assessments**, and can inform conversations about a student's growth periodically with other educators and families.

Whether or not a portfolio system is used, there should be a comprehensive approach to assessment that links universal common assessments and common formative assessments to state standards (Quenemoen et al., 2004).

In the domains of climate and behavior, relevant data that can be used to evaluate and monitor the overall quality of the school climate and the success of the behavioral system are particularly vital (Horner and Sugai, 2004; www.swis.org). These data could include office discipline referrals; attendance data; suspension and expulsion rates; school dropout rate; student, faculty and family surveys; and achievement data, because of the links among climate, behavior and achievement. For individual students, observational data and checklists involving well-defined behaviors (e.g., time on task, amount of work completed, positive interactions with peers) may be useful for monitoring progress and differentiating instruction in the area of behavior. With respect to school climate, collecting relevant survey data (e.g., World Health Organization's Psycho-Social Environment Profile, www.casel.org) to assess areas of strength and weakness can guide interventions and practice.

In the domain of social-emotional learning, an evaluative process is needed to assess schoolwide effects and specific student outcomes of social-emotional learning curriculums. Data may be gathered on such factors as school attachment, 40 Developmental Assets, pro-social skills and/or graduation rate. The curriculum and its objectives will help direct the type of data to collect in order to evaluate the effectiveness of social-emotional learning curriculums against districtwide benchmarking. There are a variety of sources to help select and evaluate social-emotional learning curriculums, such as www.CASEL.org and www.search-institute.org. Additional resources on progress monitoring measures, including measures for a variety of academic domains as well as social-emotional learning and behavior, can be found at the National Association of School Psychologists (www.nasponline.org/index2.htm); The Evaluation Center (www.wmich.edu/evalctr); the Illinois PBIS Network Web site (www.pbisillinois.org); Jim Wright's Intervention Central (www.interventioncentral.org);
and RTI Wire (www.jimwrightonline.com/php/rti/rti_wire.php).

Although the focus of this subsection has been on benchmarking, common formative and progress-monitoring assessments, it should be emphasized that other types of assessments such as diagnostic assessments also may be given. For example, a middle-school English teacher is concerned about the fact that a small group of her or his students evidence poor use of conventions (e.g., capitalization, punctuation, subject-verb agreement) in their daily writing or on universal common assessments. This kind of difficulty could be due solely to the students' failure to apply revision and editing processes in their work, or it could be due to actual lack of knowledge of the conventions. Obviously, the instructional remedy differs depending on what the underlying need is. In this situation, the teacher might decide to administer an informal diagnostic assessment involving knowledge of grade-appropriate conventions, such as a set of sentences with errors that the students would have to correct. This is not a universal common assessment because it is not being given to all the students in the class, only the ones who evidence this particular area of difficulty. Nevertheless, the assessment would be important in helping the teacher differentiate instruction appropriately for this small group of students in Tier 1 before identifying the need for Tier 2 intervention.

Data Analysis and Decision Making in Tier I. Data analysis and decision making must occur collaboratively, in teams. Data teams are constituted at the district, school and grade (or content area) levels. Teams should include school administrators, content/grade-level general educators and specialists, such as school psychologists, special educators, language arts consultants, ESL teachers and mental health personnel. The data examined collaboratively by data teams focus largely on student assessments, but include other kinds of data as well (e.g., office discipline referrals, suspension and expulsion rates, retention rates, referrals to special education or school climate surveys). District data teams examine data across schools within a district. School data teams analyze data within a school. Grade-level or content teams examine data at the level of a particular grade (e.g., second grade) or content area (e.g., social studies). Data teams are responsible for developing and monitoring improvement plans, as well as for analyzing data at their respective levels. Communication and collaboration across levels (i.e., district, school, grade/content area) on a regular basis through vertical teams also are very important.

School data teams are responsible for analyzing benchmark data and should meet at least quarterly. A critical first task is to verify that the overall curriculum, instruction, climate and behavior system work for most students. That is, at least 80 percent of all students should be meeting important standards, outcomes and behavioral expectations for their grade. Charting and comparing data across classrooms within a grade (or within a content area/course) are essential. A deficient curriculum generally will have a broad impact across classrooms within a grade, whereas a problem with instruction is likely to affect some classrooms but not others. A problem with fidelity of implementation also is likely to affect some but not all classrooms, unless the implementation failure is a broad one, involving all teachers in a grade. In other words, if more than 20 percent of students are failing to achieve across all classrooms in a grade, then the problem is most likely a curricular one, or a broad failure of implementation. If some classrooms are doing well and others are not, then the problem is likely to be instruction and/or fidelity of implementation within the low-achieving classrooms. Determining and addressing the underlying problem is vital to ensure the overall effectiveness of the education system and to prevent high numbers of students from requiring intervention.

For example, Figure 2 on page 32 is a bar graph that shows the percentages of fourth grade students meeting end-of-year reading and math benchmarks in School A. The four different fourth grade classrooms in the school are on the x-axis, and percentages of students meeting benchmarks are on the y-axis. The light gray is reading and the dark gray is math. An examination of the graph shows that, for all of the classrooms, at least 80 percent of all students are meeting end-of-year math benchmarks; however, for reading, no classroom has 80 percent of all students meeting the benchmark. Assuming that observations (e.g., classroom walkthroughs) demonstrate that teachers are implementing the reading curriculum with fidelity, this pattern suggests a problem with the reading curriculum, but not the math curriculum. The school data team should determine what this curricular weakness is, with reference both to the curriculum and student assessment data. Data from previous grades also are important. For example, are the students coming into fourth grade already scoring well below benchmark in reading? If so, this suggests a problem with the curriculum across grades; if not, the problem is more localized to Grade 4. In any case, the school data team should develop a plan to address the curricular problem and to monitor improvement. Otherwise, the curriculum will continue to

generate a constant flow of readers needing intervention, not because they have genuine learning problems, but because they are casualties of gaps in the curriculum.

By contrast, Figure 3 on page 32 is a similar bar graph for fourth grade students in School B. Note that here one particular classroom, Class 2, stands out as having a much lower percentage than the other classrooms of students meeting the end-of-year math benchmark; otherwise, all classrooms are at 80 percent of all students (or better) meeting both reading and math benchmarks. This pattern suggests a problem in Class 2 with either math instruction or fidelity of implementation of the math curriculum (or perhaps both). If the math curriculum itself were deficient for Grade 4, all classrooms should be impacted. The school data team needs to determine whether the problem in Class 2 is due to lack of instructional efficacy or implementation fidelity. The focus should be constructive, on finding a way to address the problem (e.g., providing additional support, coaching or materials to the teacher) in order to keep a disproportionate number of students in Class 2 from needing Tier II or Tier III math intervention.

If curriculums, instruction and learning environments are effective for most students, and if teachers use universal design to differentiate instruction to meet a range of students' needs, then students who fail to meet benchmarks should be considered for Tier II intervention. Specific decision rules and cut points for intervention will be considered in greater detail in the section entitled "Making SRBI Work."

Grade-level/content area teams collaboratively analyze data from common formative assessments and should meet weekly or minimally biweekly. Results from common formative assessments should be used to identify strengths and weaknesses in grade-level curriculums and instruction, as well as to differentiate instruction for individual students. For example, a fifth grade team identified vocabulary as a frequent area of need among their students; the team would agree on instructional strategies to enhance vocabulary learning building upon proven and/or research-based practices, implement those strategies over a period of time, re-administer common formative assessments, and then reconvene to determine whether the changes in instruction were having the desired effect. Similarly, if a high school math team identified problem-solving as a frequent area of student need, they would reach consensus on instructional strategies to increase students' problem-solving abilities, implement those strategies, re-administer common formative assessments, and then examine the results of the assessments to see whether the strategies had been effective.

Figure 2. Percentage of fourth grade students meeting end-of-year reading and math benchmarks in School A

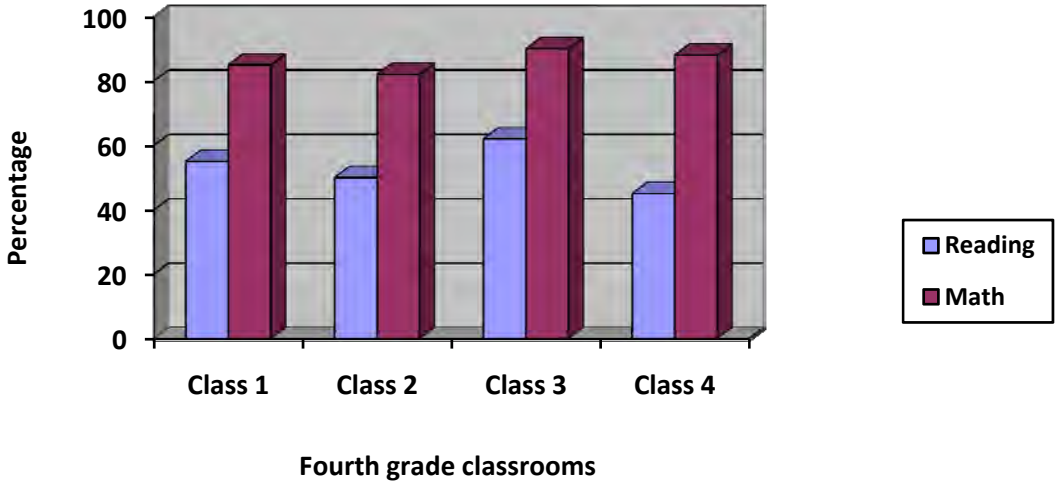


Figure 3. Percentage of fourth grade students meeting end-of-year reading and math benchmarks in School B

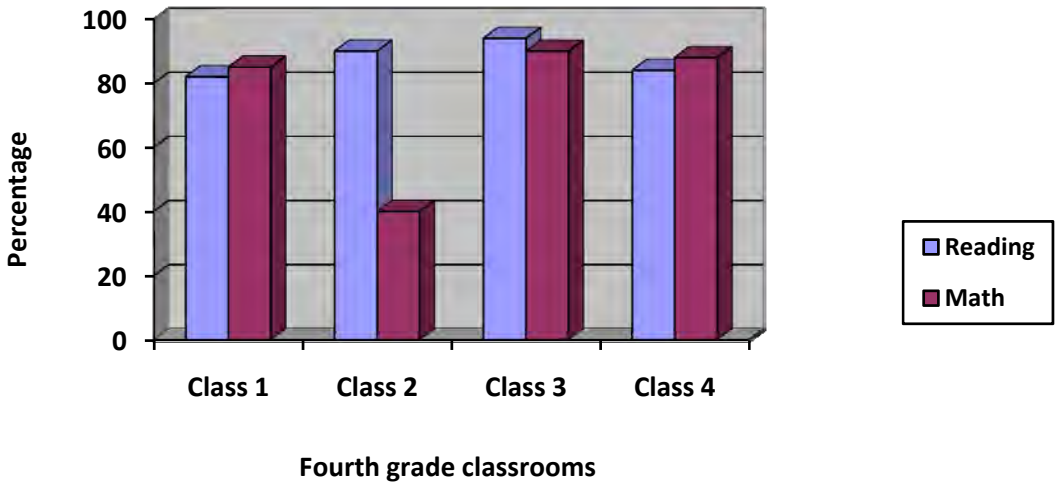


Table I: Summary of Essential Features of Tier I

Focus	General education core practices
Setting	General education classrooms
Curriculum and instruction	Research-based, comprehensive and aligned with state standards/student outcomes; culturally responsive; positive and safe school climate; must include a comprehensive system of social-emotional learning and behavioral supports
Interventions	Differentiation of instruction within the general education classroom, e.g., through flexible small groups and appropriate instructional materials matched to students' needs and abilities
Interventionists	General education teachers with collaboration from school specialists
Assessments	Universal common assessments of all students at least three times per year (benchmark data) to monitor progress and identify students in need of intervention early; common formative assessments to guide and differentiate instruction; data to evaluate and monitor the effectiveness of the behavioral system (e.g., attendance rates, discipline referrals), overall quality of school climate, and social-emotional learning (e.g., school attachment, 40 Developmental Assets, graduation rates); additional assessments of certain individual students (e.g., checklists, observations, diagnostic assessments) as warranted
Data analysis and decision making	District, school and grade/content area data teams; district data team analyzes data across schools within a district; school data team analyzes benchmark data within a school to establish the overall efficacy of curriculums, instruction, school climate and system of social-emotional learning and behavioral supports for all students, and monitors fidelity of implementation; grade-level/content area data teams analyze common formative assessments to improve and differentiate instruction within a grade or course, and identify individual students in need of Tier II academic or behavioral intervention

Tier II: Scientific Research-Based Supplemental Interventions

Tier II Interventions. Students who fail to attain important benchmarks despite curriculums and instruction that are generally adequate for most, and despite adequate differentiation of instruction, receive Tier II interventions. Tier II interventions are short term (e.g., eight – 20 weeks) and remain part of the general education system with supports from specialists. Interventions must be research-based as much as possible, be reasonably feasible for educators to use, and accurately target the student's area(s) of difficulty. These interventions are supplemental to the core academic instruction that is delivered in the classroom by the classroom teacher or other specialists. These interventions do not replace core instruction, nor do they remove responsibility for the child's learning from the classroom teacher; rather, students receive support both in Tier I and Tier II. If appropriately matched to individual student's needs and implemented with fidelity, interventions should result in growth for most students receiving Tier II interventions. For students experiencing academic difficulties, interventions may include instruction that targets one particular focus area (e.g., phonics skills, spelling, math concepts), or that targets multiple areas (e.g., automatic recall of facts, computational algorithms such as regrouping, and problem-solving in math), depending on the student's needs. For students exhibiting behavioral difficulties, interventions may include increased focus and targeted attention on the school climate, social skills training, self-management programs, school-based adult mentors, and increased academic support in the case of students whose behavioral difficulties are linked to academic weaknesses. Like academic interventions, social/behavioral interventions should be research-based as much as possible.

Tier II interventionists may be classroom teachers, specialized teachers or other interventionists specifically trained for Tier II supplemental instruction. Tier II interventions should be consistently scheduled and of sufficient duration to have a reasonable chance to impact the child's performance (e.g., 30 to 45 minutes per session, at least three to four times per week, for eight to 20 weeks). In addition to the Tier II interventions, students continue to receive instruction in the focus area for improvement by the classroom teacher, as well as the schoolwide behavioral system of support in a safe school climate. Interventions can occur in a variety of general education settings with the student's classroom as the option considered first. Additionally, selected interventions can occur on a one-to-one basis or with small groups of students (e.g., four to six) who exhibit the same pattern of difficulty (e.g., difficulties with math problem-solving, phonemic awareness and phonics, or social skills) and who are functioning at similar levels.

Assessment data from students who have not responded to Tier I core practices involving differentiation of instruction and attention to school climate and schoolwide social-emotional learning and behavioral supports must be examined carefully to define the nature of the area of difficulty that a student is experiencing and to determine which type of Tier II intervention is most appropriate for the student's needs. Accurate pinpointing of individual student's needs and selection of appropriate interventions are critical to the success of Tier II interventions. For example, in reading, some students may require interventions focused on phonemic awareness and phonics, whereas others may need help primarily with fluency or comprehension; in math, some students may require interventions focused on basic facts and computational skills, whereas others may require interventions focused more on problem-solving; in writing, some students may need work on basic transcription skills such as spelling and

handwriting, while others may benefit more from interventions focused on content development and elaboration of ideas. Furthermore, some students' behavioral difficulties may stem primarily from academic frustration and be best addressed through an appropriate academic intervention, while others' difficulties may stem from different causes and require different types of intervention, such as monitoring the learning environment, providing social skills training or arranging for a school-based adult mentor. If students' difficulties are not accurately pinpointed and then targeted with an inappropriate intervention---for example, if a reader whose main difficulties involve phonics receives an intervention primarily targeting comprehension, or vice versa---Tier II efforts will not be successful.

The key features required for a particular intervention must be adhered to in order for the effects of the intervention to be maximized. This is referred to as honoring the fidelity of the intervention. During the intervention period, observations by administrators and other educators may occur in order to assess the fidelity of the intervention as well as the amount of progress being made. If appropriately selected and implemented with fidelity, interventions should result in growth for most students receiving Tier II intervention. In some cases, if it is determined that a student is making very limited or no progress during the intervention period, student data should be analyzed collaboratively by groups of educators (e.g., early intervention teams that include school administrators, content/grade-level experts and specialists) to see if changes to the intervention, or different interventions, are necessary prior to the end of the intervention period. That is, Tier II may (and often will) include more than one intervention for a given child.

Tier II Assessments. Just as Tier II intervention supplements, not replaces, Tier I instruction, Tier II assessments are supplemental to those in Tier I; students continue to take all Tier I assessments and require additional assessments in Tier II. In particular, defining and pinpointing a student's area of need may require additional diagnostic assessments beyond the universal common assessments used as benchmarks and/or formative assessments in Tier I. For example, at the middle school or high school levels, poor reading comprehension can revolve around several different underlying patterns of difficulty (Leach, Scarborough and Rescorla, 2003), including poor word decoding (phonics) skills, poor vocabulary and language comprehension, poor reading fluency, or weaknesses in all of these areas. Assessment of these underlying component reading abilities often will be necessary to identify the student's targeted focus area for improvement and determine an appropriate intervention.

Once the area to be targeted by the intervention has been determined, a suitable progress monitoring assessment for that area should be selected. This assessment will be used to measure the student's progress during the intervention period and decide whether or not the intervention is working. A key feature of Tier II is that progress monitoring is more frequent (e.g., weekly or biweekly) than in Tier I. Therefore, the assessment selected must not only target the student's area of need, but must also be relatively quick, in order not to consume an inordinate proportion of the intervention time. Moreover, the assessment must be technically adequate (i.e., reliable and valid) for multiple administrations, e.g., by providing multiple alternate, equivalent forms (Brown-Chidsey and Steege, 2005). As noted previously, the Web site of the National Center on Student Progress Monitoring (www.studentprogress.org/) has useful information on the technical adequacy of a variety of commercially or publicly available progress monitoring tools.

A baseline level of functioning must be established in the student's focus area(s) for improvement prior to intervention, which ideally will require several baseline data points. For a student exhibiting behavioral difficulties, for example, whose targeted behavior involves time on task, the baseline phase might involve three separate observations of the student's time on task during a representative period of the school day, with the student's average time on task across observations employed as his or her baseline. For students experiencing academic difficulties, baseline functioning sometimes may be determined through the students' performance on Tier I universal common assessments relevant to their targeted area(s) of need. A **long-range goal** also needs to be set for each student. In academic domains, the long-range goal might be attaining a particular academic benchmark or academic standard. In the domains of behavior, social-emotional functioning or mental health, appropriate goals can be determined depending on the quality of the school climate, school behavioral expectations, social norms or student self-perceptions. Research supports the idea that ambitious goals tend to lead to better student outcomes than do more limited goals (McCook, 2006).

Data Analysis and Decision Making in Tier II. Teacher support/intervention teams are responsible for data analysis and decision making in Tier II. These teams may partially or entirely overlap with school data teams or grade/content area teams, especially in small schools. **Teacher support/intervention teams** should include certain core team members, including the school principal, general educators, reading/language arts consultant, school psychologist and a special educator. Other team members may rotate depending on the specific needs of the child being considered for intervention (e.g., ESL teacher, math specialist, school social worker). Teams target areas for intervention, match appropriate interventions to students' needs, choose appropriate progress monitoring tools, analyze progress monitoring data to determine whether students are showing growth, change or "tweak" interventions as needed, and identify students not responding to Tier II efforts. Teams also develop a written intervention plan for each student, which should include the student's specific focus area(s) for improvement; **baseline** level of functioning and long range goal; a description of the intervention, its duration and setting; specification of interventionist(s); the specific progress monitoring tool that will be used; and a time to reconvene to evaluate the student's progress. Teacher support/intervention teams must be led by and must include members with particularly strong backgrounds in assessment, data analysis, consultation and intervention research. School psychologists often are especially well-prepared in these areas, although other professionals could be as well, depending on individual background, preparation and experience.

Once a student's baseline level of functioning has been established and the intervention has been implemented, progress is monitored through reassessment at least weekly or biweekly. Several reassessments will be necessary to determine whether there is a **trend** in the student's performance toward improvement, but possibly involving regression of performance if the intervention is not working. For example, if progress is monitored weekly, it will take at least three to four reassessments during the intervention period, or three to four weeks to see whether there is any trend in the student's progress monitoring data (Brown-Chidsey and Steege, 2005).

Figure 4 on page 39 provides an example of a line graph with progress monitoring data from a first grade Student A who is receiving Tier II reading intervention. The x-axis shows sequential assessments over

time; B1, B2 and B3 represent baseline assessments, and I1, I2, I3, etc., are assessments during the intervention, which has spanned six weeks so far. The y-axis represents Student A's score on the progress monitoring assessment, an oral reading fluency measure involving passages that the student reads aloud; the score is the number of words read correctly per minute. The benchmark, Student A's long-range goal, is 60 words correct per minute. The long-range goal is shown on the graph as a dark black line, and Student A's successive progress monitoring scores are represented by the gray line. In Student A's case, the line graph clearly shows a trend toward improvement. Student A is not only responding positively to the intervention, but is approaching the goal of 60 words per minute. By comparison, Figure 5 on page 39 shows an example of a different child, Student B, who, after the first four weeks of a reading intervention, is clearly not responding; there is no trend toward improvement at all in the child's performance and the student remains far below the goal. Assuming the intervention has been implemented with fidelity, it needs to be modified or changed completely.

Approaches to monitoring students' progress should take into account not only students' levels of performance (i.e., how far behind they are compared to peers) but also their **rates of improvement** (**slope**) with intervention. Both comparisons are important. If only the level of performance is examined, then the student may be making progress, but at such a slow rate that he or she is highly unlikely to meet the long-range goal. If only rate is examined, then interpreting the child's performance relative to peers will be difficult. This **dual discrepancy** (level and slope) becomes the marker by which to judge responsiveness to intervention (Fuchs and Fuchs, 2007). For example, in Student A's case, the line graph indicates that the student is demonstrating growth as a result of the intervention and that the student should attain the reading goal if the intervention is continued a bit longer. Were this not the case—if Student A's scores were going up but only very slowly, remaining far below the goal—then it would be important to find ways to accelerate the student's progress. Many commercially available progress monitoring systems allow users to determine a student's **trendline**, the line of best fit when the student's successive scores during intervention are plotted on a graph; the slope of the trendline indicates the student's rate of improvement. The slope of the trendline is compared to that of the **aimline** (or **goal-line**), which is the line connecting the student's baseline performance to a data point representing the long-range goal. If the slope of the trendline is less than that of the goal-line, the student is not progressing at a sufficient rate to meet the goal (see Figures on page 39). Extensive discussion of how to analyze data from progress monitoring assessments and interventions, with numerous examples and sample graphs, can be found in Brown-Chidsey and Steege (2005) and McCook (2006).

An intervention obviously needs to be changed if, as in Student B's case, the data show no improvement toward the goal or even actual regression of performance**.** Interventions should not remain unchanged for an entire intervention period if the trend in the progress monitoring data clearly indicates inadequate improvement. After changes to the intervention or the use of other interventions, if substantial improvement still has not occurred at the culmination of the intervention period, the team must seek to determine why the child is making limited or no growth. At this time, it may be decided to administer additional diagnostic assessments to further intensify intervention.

Teacher support/intervention teams should analyze overall data from Tier II interventions to document the effectiveness of interventions and help monitor fidelity of implementation of interventions. Tier II interventions should be successful for at least 80 percent of all students in Tier II. If this is not the case, and assuming the effectiveness of Tier I for most students, then there is likely a problem in one or more of these areas: accurate pinpointing of students' needs, selection of appropriate interventions, matching of interventions to students, fidelity of implementation, effectiveness of the interventionist(s), or grouping practices. Documentation of these interventions and their impact on student outcomes is critical to identifying and replicating evidence-based practices and in assisting in the identification of a child with a learning disability should the team identify the need for a comprehensive evaluation. There also could be differences in overall effectiveness of interventions across domains. For example, most Tier II reading interventions might be successful while Tier II math interventions might be much less so; or Tier II behavioral interventions might be generally effective while those involving academics might not be. Whatever the problem, defining it and then developing and monitoring a plan to address it are essential.

Figure 4.
Progress monitoring data from child responding to a reading intervention

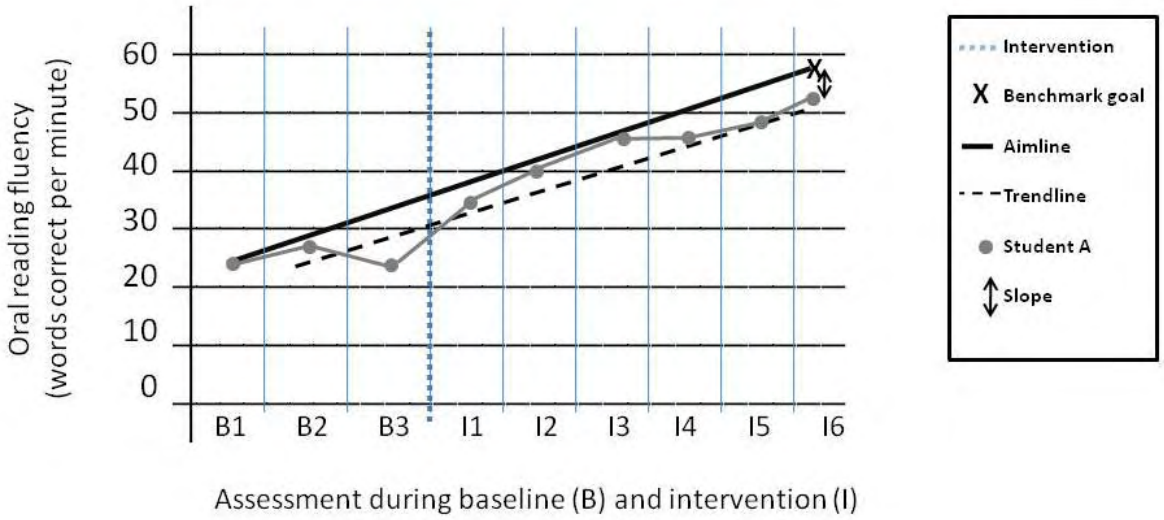


Figure 5.
Progress monitoring data from child NOT responding to a reading intervention

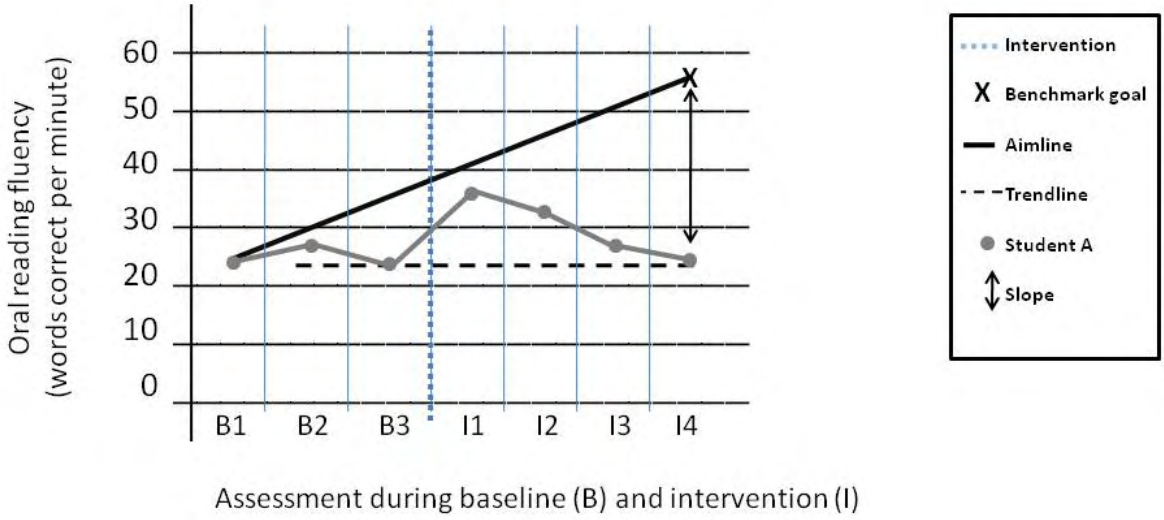


Table II: Summary of Essential Features of Tier II

Focus	Students failing to meet important academic benchmarks or social/behavioral expectations, who have not responded to Tier I core practices
Setting	General education classrooms or other general education locations within a school (e.g., library, reading lab, math lab, writing center)
Interventions	Appropriate short-term (e.g., eight to 20 weeks) interventions, well-matched to students' specific academic, social-emotional, and/or behavioral needs; delivered to homogeneous groups (i.e., students with similar needs); with a teacher:student ratio up to 1:4 or 1:6; implemented with fidelity; supplemental to core program
Interventionists	General education teachers, specialists or other interventionists trained for Tier II intervention
Assessments	Frequent progress monitoring (e.g., weekly or biweekly) using assessment tools that accurately target students' focus area for improvement; progress monitoring tools must be feasible and technically adequate to administer multiple times to assess student growth; additional assessments of certain individual students (e.g., observations, diagnostic assessments)
Data analysis and decision making	Teacher support/intervention teams that may overlap with Tier I data teams; should include core team members (e.g., school principal, general educators, reading/language arts consultant, school psychologist and a special educator) as well as additional members depending on individual student's needs (e.g., ESL teacher, math specialist, school social worker); teams match appropriate Tier II interventions to students' needs; select appropriate progress monitoring tools; analyze progress monitoring data; modify or substitute new interventions as needed; identify students not responding to Tier II efforts; conduct extensive analysis and application of data from Tier II interventions to document effectiveness of interventions; and help monitor fidelity of implementation of Tier II interventions

Tier III: Supplemental, Research-Based Interventions that are More Intensive and Individualized

Tier III Interventions. For students making inadequate progress with Tier II interventions, intensification of intervention should be considered. Educators also may consider different, more specialized interventions in some cases. The primary difference between Tier II and Tier III interventions involves the intensity and/or individualization of the intervention. Greater intensity of intervention can be achieved with a smaller teacher-student ratio (e.g., no more than one teacher to three students), a longer duration of instruction (e.g., an hour daily versus 30-45 minutes three to four times per week in Tier II), and more frequent progress monitoring. More individualized treatments would include highly explicit, systematic interventions closely targeting the needs of individual students at the students' current levels of functioning or individualized, function-based support plans for students with social-emotional or behavioral difficulties. Students exhibiting social/behavioral challenges who have not responded to Tier I and Tier II efforts also may require more comprehensive intervention plans, such as those involving school personnel's collaboration with other agencies and/or professional staff. Implementing these kinds of intensive, individualized interventions requires an especially high degree of expertise on the part of the teacher. Tier III interventionists may include general educators as well as specialists, but in either case, they require adequate training and preparation to implement Tier III interventions.

Like Tier II interventions, Tier III interventions are short term (e.g., eight to 20 weeks), supplemental to core classroom instruction, and remain part of the general education system. Furthermore, as in the case of Tier II, all Tier III interventions should be research-based to the greatest extent possible; and if it appears that a student is making little to no progress during the treatment period, the teacher support/intervention team must reconvene to see if changes to the intervention, or different interventions, are necessary prior to the end of the treatment period. Tier III interventions, like those of Tier II, should not remain in place for an entire intervention period if it has become evident that a student is not responding. Many students receiving Tier III interventions may require support in all three tiers in order to accelerate learning sufficiently to help them catch up to grade-level expectations. For example, a ninth grade student whose math achievement is on a third grade level may likely need Tier I, Tier II and Tier III interventions in order to make the gains needed to approach ninth grade performance in math.

If a student does not show adequate progress by the end of the intervention period despite attempts to improve the intervention and the use of multiple interventions, the team must carefully examine why the student is making little to no progress. At this point, analysis of the student's performance and social context should be particularly extensive and thorough, including observations of the intervention being implemented by another staff person or administrator, as well as additional diagnostic assessments if deemed appropriate. Among the issues that should be considered are whether the appropriate focus area for improvement has been targeted, whether the appropriate interventions have been tried in all three tiers, how Tier III interventions might be changed to help the student meet with success, whether previous interventions have been implemented with fidelity, and whether a comprehensive evaluation is necessary.

It should be noted that individual students may function in different tiers for different domains at the same time. For example, a struggling reader may require Tier II or Tier III intervention in reading but may function well in mathematics in Tier I, with no additional support required in that area. Furthermore, over time, students may move back and forth across Tiers. For example, a struggling reader who initially responds well to Tier II instruction in phonics may eventually fall behind again in reading due to more comprehension-based difficulties and may need to receive Tier II or even Tier III intervention involving comprehension. Some fluidity of movement across tiers can be expected due to changing academic expectations and demands across grade levels. For example, science achievement tends to draw much more heavily on mathematical competence at the secondary level than at the elementary level. High school students are expected to function much more independently than are younger students. Thus, students who are successful in one grade may still have difficulties later due to changing academic, social or behavioral demands in a subsequent grade. However, school and district personnel also should continually examine educational practices across all three Tiers to ensure that these practices are ethical and adequate, and are not inadvertently contributing to some of the students' difficulties.

Tier III Assessments. Tier III assessments are supplemental to Tier I and include the same kinds of assessments found in Tier II, such as additional diagnostic assessments, as needed, to target the student's focus area for improvement, selection of appropriate progress monitoring tools, observational measures, as required (e.g., for students with behavioral difficulties), and referral for comprehensive evaluation if warranted. The primary difference between Tier II and Tier III assessments involves the frequency of progress monitoring during the intervention. Progress monitoring should be more frequent in Tier III than in Tier II. For example, if students' progress is being monitored weekly, or every two weeks in Tier II, students receiving Tier III intervention might have progress monitored at least twice per week. Occasionally, there also may be changes in the measure used to monitor progress in Tier III, if the teacher support/intervention team decides that there was a problem with the measure used in Tier II or that different measures are needed to pinpoint student growth more accurately.

Data Analysis and Decision Making in Tier III. The teacher support/intervention team described in Tier II is also responsible for Tier III. The basic composition of the team, with certain core members and other rotating members that depend on the individual student's needs being considered, remains the same as described in the previous section. The responsibilities of the team in relation to Tier III students also are so similar to Tier II (e.g., develop written intervention plans, analyze progress monitoring data, modify or substitute interventions as needed, identify students not responding to Tier III efforts, evaluate and monitor overall effectiveness of Tier III interventions, monitor fidelity of implementation). Teams decide how best to intensify or individualize interventions; all students receiving Tier III intervention should have a written intervention plan that includes the areas specified in the previous section. Furthermore, teams must be especially thorough in analyzing and applying data for students who have not yet responded to Tier III intervention or have made insufficient progress to date, as discussed above. If necessary, Tier III progress monitoring documentation and assessments are needed to inform the design of a comprehensive evaluation for the determination of a learning disability.

Table III: Summary of Essential Features of Tier III

Focus	Students failing to meet important academic benchmarks or social/behavioral expectations who have not responded to Tier I or Tier II efforts
Setting	General education classrooms or other general education locations within a school (e.g., library, reading lab, math lab, writing center)
Interventions	Appropriate short-term (eight to 20 weeks) interventions, well-matched to students' specific academic, social/behavioral needs; more intensive or individualized than Tier II interventions; delivered to homogeneous groups (i.e., students with similar needs); with a teacher: student ratio up to 1:3; implemented with fidelity; supplemental to core program
Interventionists	Specialists or other interventionists trained for Tier III intervention (including general educators with appropriate training)
Assessments	Very frequent progress monitoring (e.g., twice per week) using assessment tools that accurately target students' focus areas for improvement; progress monitoring tools must be feasible and technically adequate to administer multiple times to assess student growth; additional assessments of certain individual students (e.g., diagnostic assessments, comprehensive evaluation) as warranted
Data analysis and decision making	Teacher support/intervention teams (as in Tier II); teams decide how to choose, individualize and intensify interventions for students receiving Tier III interventions; select appropriate progress monitoring tools; analyze progress monitoring data; modify or substitute new interventions as needed; identify students not responding to Tier III efforts; conduct extensive analysis and application of data from Tier III interventions to document effectiveness of interventions; and help monitor fidelity of implementation of Tier III interventions

Referral to Determine Eligibility for Special Education and Related Services

It must be emphasized that special education is not merely the "end point" of failure to respond to various tiers of intervention. Generally, a student will receive Tier III interventions tailored to her or his needs. Through progress monitoring, a determination will be made as to whether the interventions have been successful before referring the student for special education eligibility. However, Connecticut State Regulations provide for "the prompt referral to a Planning and Placement Team (PPT) of all children who have been suspended repeatedly or whose behavior, attendance or progress in school is considered unsatisfactory or at a marginal level of acceptance." [10-76d-7). The current practice of ensuring the prompt referral to the PPT will not change with the implementation SRBI. School personnel must act upon a referral by convening a PPT meeting to determine whether a comprehensive evaluation is warranted based on progress monitoring data that have been shared with families. At the point of referral, procedural safeguards provided by IDEA 2004 become relevant, such as parental consent for evaluation and adhering to various timelines. While being evaluated for eligibility, all students continue to have access to the appropriate tiers of intervention.

In addition to the information gathered by a group of qualified professionals and the parent (Connecticut refers to this team as the PPT) to determine eligibility for a comprehensive evaluation, this team also should consider data gathered from the student's experiences in the various tiers of instruction. These data are relevant to evaluations involving all types of disabilities, because they can provide important insights about the nature of individual student's difficulties and inform future educational planning, as well as help to rule out inadequate instruction or deficiencies in the school climate as the primary cause of a student's learning problem(s). Moreover, the most recent federal regulations on learning disabilities (i.e., IDEA 2004) prohibit states from requiring an IQ-achievement discrepancy as one of the criteria for identification of LD (NCLD, 2007) and allow the use of SRBI, referenced in IDEA as Response to Intervention (RTI), as part of the procedures for identification of students with learning disabilities. While recognizing that ongoing research involving applications of SRBI is needed, IDEA 2004 clearly encourages schools to engage in interventions that enable a broader range of students to succeed in the general education environment (NCLD, 2007).

It is anticipated that by July 1, 2009, revised Connecticut state guidelines for identifying students with learning disabilities will no longer allow the use of an IQ-achievement discrepancy as one of the criteria for determination of a learning disability. School personnel must incorporate the review of SRBI data as part of a comprehensive evaluation to identify a student as having a learning disability. These changes will support, through state guidelines, the scientific consensus about best practices for the identification of learning disabilities (Speece and Shekitka, 2002), as well as conform to the provisions of IDEA 2004. Using progress monitoring data from SRBI, as part of a comprehensive evaluation to diagnose learning disabilities, are empirically better grounded and more defensible than are psychometric approaches using the IQ-achievement discrepancy. The IQ-achievement discrepancy model of LD identification requires too much time for students to exhibit discrepancies, causing students to need to fail before receiving services (Fuchs, Mock, Morgan and Young, 2003) and carries no implications for instruction.

SRBI potentially negates each of these problems by capturing all students who are not learning, allowing implementation of intervention early in a student's school career, and having a direct connection to instruction (Fletcher et al., 1994; Vellutino, Scanlon and Lyon, 2000) (see www.ncld.org).

Families and SRBI

Families play a critical role in supporting what their children are learning in school. Research shows that the more families are involved in student learning, the higher the student achievement (Henderson and Mapp, 2002). It is important for school personnel to provide families with family-friendly information regarding SRBI (see *A Family Guide to SRBI* available through Connecticut's Parent Information and Resource Center at www.ctpirc.org). School personnel must be committed to engaging families when concerns about a student's academic, social or behavioral performance are first noted. Families should be provided with continuing information about their child's progress on assessments, as well as opportunities to participate in team meetings and decision making about their child's progress and in determining if a comprehensive evaluation for special education is warranted. During the formal evaluation process to determine a learning disability, parents must receive data-based documentation which reflects the student's progress derived from the interventions (see Connecticut's Parent Advocacy Center at www.cpacinc.org). When a student is found to be eligible for special education, instruction or interventions that are highly focused on student's specific needs, as indicated in a student's individualized education program (IEP), continue to be progress monitored with documentation provided to families to demonstrate effectiveness. Students with disabilities may continue to receive interventions that were determined effective prior to eligibility decision. For example, a student recently identified with speech and language impairment may receive special education services to improve oral communication skills and still participate in a Tier II literacy group and receive core instruction in Tier I.

SRBI not only benefit students with learning disabilities, but students with other disabilities as well; for example, by making general education practices more responsive to students' needs, more students with disabilities will be included and successful in the general education classroom. The basic principles of SRBI - such as the use of scientific research to inform educational practice, the need for accountability and transparency, culturally and ethically responsive teaching, the importance of monitoring fidelity of implementation, and data-driven decision making—are as relevant to special education as general education. These principles should be applied to increase the effectiveness of both general and special education.

Strategic Decision Making

A school based team (e.g., data team or early intervention team) must consider the overall efficacy of Tier I; efficacy of Tier II and Tier III interventions; and fidelity of implementation of core practices and interventions. If there are problems in any of these areas, then the team must ensure that classroom teachers, administrators and/or interventionists address these problems. For example, if Tier II math interventions are failing to improve the performance of most students receiving those interventions, then the reasons behind this failure should be examined and addressed, such as better selection of

research-based interventions, better grouping practices or improved fidelity of implementation. If more than 20 percent of all students are involved in frequent disciplinary referrals, then the quality of the school climate and the system of schoolwide positive behavior supports should be closely scrutinized and improved. Some of the discussions at this point might be to analyze systemic issues (e.g., how effective are we at matching intensity of intervention to student need?) and/or individual student issues (e.g., how effective are we at identifying students' focus areas for improvement?). If this team has confidence in the procedures used, as evidenced by data collected, and the student is not making adequate progress, a determination could be made to involve additional specialists to review the data and determine if a referral for a comprehensive evaluation is warranted.

The previous two sections of this document focused on the basic definition and underlying principles of SRBI, as well as on the specific details of implementing SRBI through a three-tiered model. Successful implementation also depends on some key factors that have not yet been presented: effective district and school leadership, high-quality ethical teaching, strong preservice preparation and job-embedded professional development, collaboration with and supports from special services personnel, family engagement, and access to and use of technology. After consideration of these key factors, two other important topics will be addressed: criteria for selection of core curriculums and interventions, and decision making rules and cut points.

Effective District and School Leadership

Effective leadership is essential to provide the vision, oversight and guidance for implementing SRBI. SRBI include many practices that most teachers are already incorporating in their daily routine: ongoing assessment for learning, differentiation of instruction, effective classroom management, and working in collaborative teams. However, implementing SRBI requires some fundamental beliefs for many educators (see Underlying Principles on pages 14-21). One belief involves the idea that, when students are not achieving, one looks carefully at curriculums, instruction, learning environment and school climate first, before looking for "problems" within the student; possible learning difficulties are considered only after curriculums, instructional and social/behavioral factors are systematically ruled out. Another belief involves the idea that educational decision making should be data-driven and transparent to all stakeholders, including families. Yet another, is the idea that general education must include formal processes for additional support for students, including intensive interventions for all students who require it, rather than depending solely on the willingness of individual teachers to provide. The purpose of the use of SRBI are to meet the needs of as many students as possible through the general education system, not to transfer responsibility for students who are experiencing difficulties outside of general education (i.e., to special education). Strong and effective leadership is needed to make the potential shifts in thinking that may be necessary.

District leadership is particularly important in order to develop systemic approaches to curriculums, assessment, instruction, school climate, social-emotional learning and behavioral supports. Educators in many schools are like people in a rowboat, all rowing very hard, but in different directions at the same time. A systemic approach allows for a much more coordinated, and ultimately more efficient and effective, endeavor. Otherwise, gains made by high-quality curriculums and instruction in one grade may be completely undone in the next; whether individual students learn in a positive and safe school climate or receive appropriate behavioral support or effective instruction in a vital curricular area may depend heavily on being placed in a particular teacher's class. The systemic approach frees teachers to focus their energies on important responsibilities such as effective implementation of curriculums, instruction, school climate and social/behavioral supports, rather than requiring individual teachers to keep "reinventing the wheel" by, for example, having to design their own curriculums. For the systemic

approach to succeed, district leaders must be able to make well-informed, competent choices of curriculums and assessments (or effectively guide their development), because poor choices in these areas will lead to many problems. Furthermore, services related to students' social-emotional functioning, such as those involving mental health, require greater centralization in many districts, a need which also demands strong district leadership.

In implementing SRBI, district leaders must build capacity over time by analyzing existing district resources, reallocating resources as necessary, developing additional resources, establishing priorities, and setting interim goals for the implementation of various aspects of SRBI. For example, in a large district, administrators might decide initially to focus on the schools with the highest referral rates to special education or the highest retention rates, gradually adding schools over several years of implementation. District leaders might also decide to focus initially on one particularly central curricular area, such as reading, and add other areas later. As Torgesen (2006) has noted, achieving large-scale improvement in education is roughly analogous to building an airplane while the airplane is in flight. Educators must continue to conduct the unrelenting, everyday business of schools at the same time they are trying to put systemic changes into practice. This reality often dictates the need to implement change in a series of steps or stages---but, nevertheless, with clearly defined goals and timelines to more effectively meet students' needs.

At the school level, the leadership of the principal is critical to the success of SRBI. The principal communicates the vision, beliefs and attitudes required for SRBI to the school and school community, including families. She or he must provide support not only through words but through deeds as well, such as participating actively at meetings, serving as an effective liaison between teachers and central office administrators, and finding ways to make additional resources available. The principal also must be a knowledgeable instructional leader who can guide decisions about curriculums, assessment and instruction. His or her skill at constituting school data teams and intervention teams, collaborative team-building, establishing collective responsibility for all students' success, ensuring infrastructures are in place to support evidence-based practices, and willingness to challenge current beliefs and practices with students' best interest in mind, is essential.

High-Quality Teaching

Effective teaching can make a tremendous difference in students' learning. High-quality and ethically sound teaching is vital to SRBI for the same reasons that high-quality curriculums, positive school climate and social/behavioral supports are. If the basic quality of teaching is problematic in any tier of instruction, especially in Tier I, then the entire SRBI effort will be undermined. Among other teaching competencies, teachers should be able to implement with fidelity high-quality core curriculums, positive school climate and a system of social-emotional learning and behavioral supports; use effective teaching strategies and culturally and ethically responsive teaching practices; provide differentiation of instruction; administer and interpret common assessments; and apply results of assessments to improve instruction. Teachers involved in Tier II and Tier III interventions need corresponding expertise in how to select, implement and evaluate those interventions. Developing this expertise may require additional training for some interventionists.

Teachers also must have numerous supports. School and district personnel should provide staff with high-quality core curriculums, guidance for creating a positive school climate and a comprehensive system of social-emotional learning and behavioral supports; sufficient materials, including those necessary to differentiate instruction; technically adequate assessments that are feasible to give to large groups of students (or the resources for teachers to develop such assessments themselves); sufficient human resources, such as access to specialists; and opportunities for continuing, high-quality professional development. Professional development should include sustained inservice programs in key areas (e.g., reading, math, writing, cultural relevance, critical thinking, vocabulary development, student engagement, use of academic and behavioral assessments, and collaborative decision-making) relevant to students' needs, as well as fostering the development of professional learning communities within a school. District and school administrators must schedule adequate common time for teachers to plan and collaborate in teams, without sacrificing instructional time. Finding ways to carve out additional time are challenging, but existing resources often can be redeployed in ways that increase teachers' common time. For example, teachers may be responsible for lunch or bus duties that can be allocated to noninstructional staff members or other adults, providing more collaboration time for teachers. Teachers' unions also should be included in efforts to increase available planning and collaboration time for teachers (e.g., shortened school days for students that are scheduled as part of the school calendar while staff engages in professional development activities).

Preservice Preparation and Professional Development

High-quality teaching requires both effective preservice preparation and ongoing professional development. At the preservice level, in order to achieve the competencies mentioned earlier, all teachers need at least a basic understanding of learning, cultural and linguistic differences that may impact school achievement in core academic areas (i.e., reading, mathematics and writing) and, for middle- and secondary-level teachers, in their respective content areas, such as science. Prospective teachers need knowledge about assessment (particularly formative assessment), how to interpret assessments, and how to apply the results of assessments to improve instruction. Accurate interpretation of assessments requires knowledge about typical development within various academic domains, as well as about important component abilities and frequent patterns of difficulty within those domains. For example, in reading, students who confuse "b and p" usually are not making a visual error, but rather a phonological one, based on the fact that these two sounds are formed similarly with the mouth and differ only in voicing; in mathematics, students typically have more difficulty with computations involving zero than with those not involving zero (e.g., 40 – 19 will be somewhat more difficult for the typical second grader than 41 – 19, even though both examples involve two-digit subtraction with regrouping).

In addition, preservice preparation should provide prospective teachers with basic knowledge about ethics, importance of school climate, function of behavior, social-emotional development and mental health, as well as about how to implement a comprehensive system of social-emotional learning and behavioral supports. Future teachers should understand the interactions among school climate, behavior and academic functioning. For example, when materials are instructionally inappropriate for students (i.e., too hard or too easy), some students will act out behaviorally when their true problem is

academic frustration or boredom. Prospective teachers also should be thoroughly familiarized with state standards including the Connecticut Code of Professional Responsibility and important state policy documents relevant to their areas of certification. These documents are easily accessible to preservice and current teachers, as well as teacher educators, at the Web site of the Connecticut State Department of Education (see Key Curriculum Resources at www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=321698). Ensuring that high-quality, well-prepared teachers are placed in Connecticut's classrooms is essential for the success of Tier I instruction, as well as well-trained and prepared specialists to support students and teachers. The quality of preservice educational programs must be examined to make sure that all teachers leave colleges and universities with an appropriate level of preparation.

High-quality preservice preparation is important so that schools do not have to "play catch-up" constantly, spending excessive amounts of time developing the kinds of basic knowledge with which all teachers should begin their careers. However, even the best preservice preparation will not eliminate the need for inservice professional development, because complete coverage of all knowledge important to teachers is not feasible within a four- or even five-year preparation program, and because, like knowledge gained from medical science, knowledge from education science is continually evolving. Therefore, all teachers need ample opportunities for high-quality, ongoing professional development. This professional development should be sustained and meaningful rather than involving disconnected workshops, and it should include classroom observation and coaching wherever possible. Inservice professional development also should be driven by the results of student assessments; that is, it should emphasize the areas in greatest need of improvement in terms of curriculums, instruction, learning environment and social/behavioral supports.

Supports from Special Services Personnel

Many specialists can help provide leadership and support in the implementation of SRBI. School psychologists can offer expertise in systemwide program design, team leadership and collaboration, assessment, program evaluation, school climate, social-emotional learning and behavior. They can provide important guidance regarding the selection or development of appropriate progress monitoring assessments. When students are referred for comprehensive evaluations, school psychologists can work with other school personnel to consider programmatic options, determine eligibility for special education services, and help decide what scientifically based academic, social/behavioral interventions may be needed (National Association of School Psychologists, 2006). Reading/language arts consultants have expertise in the domain of literacy relevant to students at all achievement levels, including high as well as low achievers. They can offer important guidance for differentiating language arts instruction to meet a range of students' needs, for selecting appropriate texts and using them for instruction, for integrating literacy in content areas, and for developing students' writing. Math consultants have analogous expertise in the domain of mathematics. Special educators have expertise in instructional strategies and alternative approaches that can help to meet the needs of students experiencing difficulty in a variety of academic domains. They also have knowledge about interventions and supports for students with social/behavioral needs, as well as about various types of assessments, including the kinds of tests typically used in comprehensive evaluations. Speech-language pathologists have expertise in the area of oral language and speech. They can provide information about ways to foster students'

language development, about signs of speech or language delays, and about a variety of disabilities that involve speech or language problems. ESL teachers have expertise in second language acquisition and instructional strategies to make academic content more accessible. With appropriate training and guidance, paraprofessionals also can play an important supportive role in the implementation of SRBI.

While professional groups have differing areas of expertise, individual specialists also vary, depending on prior preparation and experience. For example, a special educator may have considerable experience and professional development in teaching word decoding; and a reading/language arts consultant with substantial professional development in content literacy may have an especially high degree of expertise in that domain. In implementing SRBI, schools should be able to use the most appropriate specialists to help meet the specific needs of individual students.

Family Engagement

The vision, rationale and principles involved in SRBI must be communicated to families, which may include not only biological parents, but any other adults involved in raising children (e.g., grandparents, foster parents). Comparisons to well-child care may be especially valuable in helping families to understand SRBI. For example, high-quality core curriculums and instruction are essential to effective education in the same way that good nutrition and routine immunizations are essential to children's health; progress monitoring in education is analogous to regular well-child visits that track children's physical and cognitive development; prevention and early intervention are just as desirable in education as in health care; and a small number of students will require intensive educational treatment just as some children require intensive medical treatment or hospitalization. It is especially important that the advantages of SRBI, in comparison to more traditional educational practices, be conveyed to families. For example, with SRBI, all students benefit from the focus on systemic, high-quality core curriculums, a positive and safe school climate, and a comprehensive system of social-emotional learning and behavioral supports; all students benefit from data-driven decision making; and students with difficulties are much more likely to receive timely interventions. In conveying this information about SRBI to families, school and district personnel should capitalize on avenues that are already in place for family engagement, such as family literacy initiatives, parent-teacher-student conferences and school open houses. There also are some very helpful Web resources on SRBI for families; for example, the National Center on Student Progress Monitoring has resources for families that explain progress monitoring and its advantages in clear, family-friendly language
(see www.studentprogress.org/family/default.asp).

Families also have important roles in supporting schools, for example, by attending parent-teacher-student conferences and other school events as often as possible; monitoring students' completion of homework; setting limits on activities that may compete with schoolwork, such as watching television or playing video games; and communicating that education and achievement are highly valued. Families should also become informed about and involved in SRBI by attending meetings, reading informational materials and asking questions (see www.ldaamerica.org/news/role-parents.asp). Lack of family

involvement is never an excuse for schools not to do their best to help all students achieve. However, when families are involved and support children's schooling, children clearly benefit (Snow et al., 1991).

Access to and Use of Technology for Data Management

In principle, many of the kinds of data analysis discussed in the description of the three-tiered model could be done with graph paper and a pencil. However, for large groups of students, this approach would be extremely burdensome at best. School districts need a continuing database of information from student assessments for each school, grade and class, as well as other information such as retention rates, suspension and expulsion rates, survey results, and disciplinary referrals. They need a reasonably fast and accurate way to make comparisons across schools, grades and classrooms, in order to answer such questions as whether the curriculums, instruction, learning environment, and system of social-emotional learning and behavioral supports are working for most students, whether students are progressing adequately from grade to grade, and whether individual students are meeting important benchmarks. Districts and schools also need systems to report to and communicate with families, as well as to other administrators and educators. Technology is essential to meet these and other needs involved in managing and analyzing large databases of student information over time**.**

Hardware tools and software programs are available for schools to manage and analyze benchmark data. These include both stand-alone computer workstations and networks that store data on a central server, but allow many individuals to access the data through different computers on the network. Several Web-based benchmark data services also offer a variety of ways to manage student data. Brown-Chidsey and Steege (2005) have a helpful discussion of these technological alternatives.

Criteria for Selection of Core Curriculums and Interventions

Many people adopt certain lifestyle habits to increase their odds of having a long and healthy life, such as a wholesome diet, regular exercise and routine medical screenings. However, they might not want to have that fifth serving of vegetables or that routine colonoscopy, if scientific evidence had failed to indicate that doing so would increase their chances of staying well. Similarly, a person with a serious illness probably would want her or his doctor to exhaust scientifically supported treatments before trying unsupported or experimental ones. The use of evidence-based practices in education, both in terms of core curriculums and instruction, and the selection of interventions, is equally vital to maximize the odds of students' success. The use of evidence-based practices and interventions does not guarantee school success for every student, any more than healthy lifestyle habits guarantee good health. However, without scientifically based core practices and interventions, the likelihood of school failure is greatly increased for many students.

In selecting and developing core curriculums, district and school personnel should consider a number of factors. Curriculums should address component abilities that research has established being as important to achievement in a given domain; these component abilities will tend to vary developmentally, across grades. For example, in mathematics, accuracy and automatic recall of basic facts, such as addition facts or multiplication tables, should be a standard component of the early to

middle elementary math curriculum, but are not ordinarily part of the seventh or eighth grade curriculum (although low-achieving math students at these upper grade levels might still need interventions involving basic facts). In writing, although students often are introduced to revision and editing processes (e.g., via the use of a writing process) in the primary grades, the expectations for students' abilities to revise and edit their work independently increase greatly at the middle and secondary levels. Core curriculums should reflect these changes in emphasis across grades as well as encompassing important component abilities within grades; they also should address state standards and student outcomes. If a district is using a commercial program, it is important to be aware when a given program is not intended to address a complete curriculum and may need supplementation with another program or additional instructional materials.

In addition, district and school personnel should consider the needs of their specific student populations in selecting and developing core curriculums. For example, although vocabulary is a critical curricular area for all students, a school serving a population with a high proportion of English language learners will likely require a stronger emphasis on teaching strategies (e.g., sheltered instruction) and materials that will support language acquisition. Students who are ELLs will benefit from constant exposure to English vocabulary, especially to the more academic language needed for success at later grade levels and in content subjects such as social studies and science (Francis et al., 2006). Therefore, ensuring that the curriculum addresses vocabulary development thoroughly would be particularly important for a student population containing a high proportion of English language learners.

In contrast to core curriculums, interventions are usually more focused, involving a specific problem area such as reading fluency, math problem-solving or spelling. There is a substantial research base for selecting interventions, especially in the area of reading; schools certainly should refer to this research base in choosing interventions. As discussed in the previous section, ensuring that the intervention is matched to the student's needs also is essential; a math problem-solving intervention might have excellent research support, but it probably won't be of much help to a student who has strong problem-solving skills already and whose main difficulties revolve around computation. Brown-Chidsey and Steege (2005) have an informative chapter on criteria for selecting evidence-based interventions, and McCook (2006) includes specific examples of research-based core curriculums and interventions.

Online resources can be especially helpful to schools in making decisions about core curriculums and interventions**.** The U.S. Department of Education (2003) has a very useful publication for educators and administrators on how to identify and implement educational practices supported by evidence; this publication is relevant across many domains of schooling, including social-emotional learning as well as academics, and is available at www.ed.gov/rschstat/research/pubs/rigorousevid/index.html. The Center on Instruction has many excellent resources for educators that summarize key research findings and recommendations for educational practice for Grades K-12 and across several academic domains (reading, math, science); they also have resources relevant to English language learners and to special education (see www.centeroninstruction.org/sitemap.cfm). Another helpful online resource with research-based information on reading, mathematics, English language learners and special education is the Vaughn Gross Center at the University of Texas at Austin (see www.texasreading.org/utcrla/). In

Connecticut, the State Education Resource Center (SERC) also has many helpful resources online, as well as an excellent library, with research-based information relating both to academics and behavior (see www.ctserc.org/).

In addition, Web sites dedicated to specific domains can provide valuable information about evidence-based practice and how to select research-based core curriculums and interventions in their domains. For example, the Florida Center for Reading Research (www.fcrr.org) has helpful reviews of different core reading programs as well as guidelines for reviewing a reading program; the Haskins Literacy Initiative at Haskins Laboratories in New Haven (www.haskins.yale.edu/hli/hli_readingresearch.html) has extensive research-based professional development resources relevant to speech, language and reading instruction; the National School Climate Center in the Center for Social and Emotional Education (www:nscc.csee.net/) has a wealth of information about creating and maintaining a positive school climate; the National Technical Assistance Center on Positive Behavioral Interventions and Supports (www.pbis.org/main.htm) has practical information for districts and schools on how to implement a system of positive behavior supports, as well as a lengthy list of relevant research articles; and the Collaborative for Academic, Social and Emotional Learning (www.CASEL.org) is an excellent resource for evidenced based social-emotional learning programs and the research that supports such programming (CASEL, 2003).

Decision Making Rules and Establishing Cut Points

Decision making rules are necessary for the SRBI process to function smoothly and to avoid paralysis created by debates about whether, for example, the curriculum is "good enough" or an intervention is "working." If there are no clear decision rules, then important decisions may not be made consistently, efficiently or fairly for all students contributing to gaps in achievement of various subgroups. A number of decision making rules have been suggested:

- At least 80 percent of all students in a grade should be meeting important academic standards and benchmarks for the core curriculum and instruction to be considered effective.
- At least 80 percent to 90 percent of all students should be meeting fundamental behavioral expectations for the comprehensive system of social-emotional learning and behavioral supports to be considered effective.
- At least 80 percent of students receiving Tier II and Tier III interventions should reach their intervention goals in order for Tier II and Tier III to be considered effective.
- One hundred percent of all students in school should learn in physically, emotionally and intellectually safe academic and social school environments.
- Professional development for teachers should emphasize the areas in greatest need of improvement in curriculums, instruction, learning environment or social/behavioral supports, as indicated by student data (e.g., common assessments or disciplinary data).

- At least three or four reassessments during Tier II or Tier III intervention are required to establish a trend in the student's performance. If this trend indicates no improvement, or worsening of performance, then the intervention should be modified or changed.

Another important decision rule involves defining low student performance by establishing **cut points** on common benchmark assessments. Cut points specify the score at or below which students would be considered for intervention. Suggested cut points vary, but the most frequent are the bottom 25 percent of scores (25th percentile and below), the bottom 16 percent (16th percentile and below) and the bottom 10 percent (10th percentile and below). Different cut points will result in substantially different numbers of students being considered for intervention. On average, if the cut point for the reading benchmark is the 25th percentile, then in a class of 25 students the students with the six lowest scores would be considered for reading intervention; if the 16th percentile is used, then the students with the lowest four scores out of 25 would be considered; and if the 10th is used, then the students with the lowest scores (approximately two to three) would be considered. Furthermore, these numbers expand for multiple domains (e.g., interventions for both reading and math instead of reading only). Whichever cut point is selected, the school data team must review the scores of all students who fall below the selected cut point in order to ensure that students experiencing difficulty are not overlooked. Thus, if a school decided to use the 10th percentile on its reading benchmark assessment as the cut point, the data team would examine the scores of all students who fell at or below the 10th percentile to identify common needs.

District and school leaders also need to decide whether to define their cut points in relation to local, state or national norms. **Local norms** define student performance in relation to the population of the local school or district; if no local norms exist, they can be developed by gathering a database of students' performance on universal common assessments over the initial phase of implementation of SRBI. State norms define performance in relation to a state sample (e.g., as on the CMT or CAPT). **National norms** define student performance in relation to a national sample. If a district uses generic curriculum-based measures (CBMs) purchased or downloaded from the Internet, national norms usually are provided; published norms based on research studies also exist for a number of common benchmark assessments in reading, writing and mathematics.

Although one particular type of norm will need to be chosen for setting cut points, all three types should be considered in evaluating student performance, because all three kinds of norms provide useful information, and because they can sometimes yield very different results. For example, if a district contains a relatively high proportion of low-achieving students (e.g., 50 percent of first graders failing to meet math benchmarks according to national norms, or 50 percent of high school students failing to meet writing standards according to state norms), then many more students may be identified as needing intervention in relation to national and state norms than in relation to local norms. Initially, it may not be feasible for these districts to provide intervention to all students identified via national and state norms, so the districts may decide to use local norms. However, by definition, these kinds of districts do not have effective Tier I practices, at least not in the domains and grade levels specified, because far fewer than 80 percent of their students are meeting benchmarks and standards. Therefore, the districts should seek to improve overall student performance through Tier I improvements in

curriculums, instruction, learning environment and social/behavioral supports that better meet the needs of all students. These improvements in Tier I should over time bring student performance closer to national and state norms. Conversely, if a district contains a disproportionate number of high-achieving students (e.g., 10 percent of first graders failing to meet math benchmarks according to national norms, or 10 percent of high school students failing to meet writing standards according to state norms), then relatively few students might be identified using national or state norms, and more would be identified using local norms. Although the information in relation to national and state norms would be helpful to these districts in interpreting student performance, the districts would continue to meet the needs of as many students as possible within the general education system, through the use of SRBI.

Q: Why should school districts implement SRBI?

A: First, SRBI provide a much more effective system for students than most current educational practices. There is clear evidence (Al Otaiba, 2001; Denton, Fletcher, Anthony and Francis, 2006; Vaughn, Linan-Thompson and Hickman, 2003) that SRBI can greatly improve general education instruction and enable most students, including students at-risk of reading failure, to be successful. The data-driven decision making component of SRBI provides a safeguard against certain negative consequences, such as the continued use of ineffective practices, that has been absent in previous educational initiatives (Brown-Chidsey and Steege, 2005). The emphasis of SRBI on a systemwide, preventive approach also represents a major advance over much current educational practice, which often is fragmented, inefficient, and tends to react to entrenched problems rather than having a proactive orientation.

Second, SRBI are consistent with a number of national and state legislative requirements, such as those of NCLB, IDEA 2004 and CGS 10-221j-m. The use of SRBI, which will be required as part of a comprehensive evaluation in the upcoming revision of *Connecticut State Guidelines for Identifying Children with Learning Disabilities*, also appears to be less biased with regard to race, ethnicity and gender than more traditional methods of identifying students with disabilities (Marston, Muyskens, Lau and Canter, 2003; Speece, Case and Molloy, 2003).

Finally, although the focus of this document has been on the benefits of SRBI for students, many aspects of SRBI can benefit teachers as well. For example, by selecting high-quality, research-based core curriculums and by implementing a comprehensive system of social-emotional learning and behavioral supports, district personnel will likely provide a more positive, satisfying work environment for teachers as well as a better learning environment for students.

Q: How do schools and districts find the time for SRBI?

A: SRBI involve many practices in which educators are already engaged, such as early intervention, assessment, behavior management, differentiation of instruction and professional development. Implementing SRBI does not require extensive “add-ons” to what educators are already doing; rather, it largely requires reviewing current practices, using data to decide which practices are effective and which are not, and substituting effective practices for those deemed to be ineffective (Brown-Chidsey and Steege, 2005). Some aspects of SRBI, such as the use of data teams and the provision of more intensive interventions, will require district personnel to find creative ways to schedule planning time and interventions. Other aspects of SRBI, such as selecting research-based curriculums and assessments, will necessitate an initial time investment that should lessen in the later stages of SRBI implementation.

Data from existing RTI (SRBI) research suggest that, other than an increased emphasis on research-based instruction, teachers’ roles do not change markedly after SRBI implementation. The roles of school

psychologists and other diagnosticians change more dramatically, with less time spent on determination of eligibility for special education services and more time spent on classroom observation, consultation and direct intervention (Reschly, 2003).

Q: How do schools and districts find the resources for SRBI?

A: Implementation of SRBI will require districts to examine existing resources, redeploy some of those resources in new ways and build capacity over time. As noted at the outset of this document, IDEA 2004 permits districts to use up to 15 percent of their federal special education funds to develop and implement coordinated, early intervening services for students, K-12, who need additional academic or social/behavioral supports to succeed in the general education environment, but who have not been identified as requiring special education or related services.

In general, prevention and early intervention approaches such as SRBI are more cost-effective than are remedial approaches to addressing problems (Connecticut Early Childhood Education Cabinet, 2006). Over time, districts should realize certain savings that offset the costs of SRBI implementation. For example, the per capita costs of educating students found eligible for special education under the specific learning disabilities category, on average, are about 50 percent more than those for general education students (Chambers, Parrish and Harr, 2002). Although per capita costs of special education are lower for learning disabilities than for many other disability categories, the LD category is particularly important in special education expenditures because it is by far the largest category under which students with disabilities are served, approximately half of all students with disabilities (see www.ideadata.org). Thus, by reducing inappropriate classifications of students as LD by including SRBI as part of comprehensive evaluation, districts can expect to save funds that can be reallocated elsewhere, such as to additional instructional materials or professional development.

Q: How should general educators differentiate instruction?

A: General educators usually will differentiate instruction according to students' specific instructional needs. For example, a ninth grade language arts teacher may differentiate writing instruction depending on whether students require additional emphasis on mechanics of writing (such as spelling), on use of revision and editing processes, or on content aspects of writing such as vocabulary and elaboration. All students still should receive a comprehensive curriculum, not just an exclusive focus on their focus areas for improvement; for example, students requiring work on mechanics of writing still must receive instruction in the use of revision and editing processes, as well as content. In addition, general educators sometimes will differentiate instruction in ways other than students' instructional needs, such as those based on students' learning styles or interests, to increase student engagement.

Q: How can general educators determine whether students are making adequate progress?

A: Students who are meeting important standards and benchmarks for a grade generally are making adequate progress, although if there is some reason to be concerned about any student's progress, including concerns raised by a parent, educators should consider administering diagnostic assessments to pinpoint the student's area of need. Students receiving Tier II and/or Tier III interventions should demonstrate both a level and a rate of learning on progress monitoring assessments that indicate they are on a trajectory to meet grade-level standards and expectations.

Q: How can school and district administrators ensure that personnel providing instruction and interventions are appropriately certified?

A: In addition to the provision of high-quality professional development to ensure fidelity of implementation, school and district administrators need to ensure that students are being instructed by staff members who are certified in the subject/content area in which they are working. It is important for district administrators to review each staff member's certification, as there may be staff members who hold certification in additional subjects/grades to the area in which they are currently working in (e.g., special education staff members certified in special education and elementary education). At the elementary and secondary levels, staff certified in the grade level and content may provide instruction in that content area in the core general education curriculums and also in Tiers II and III. For all levels, reading specialists and reading consultants may provide reading interventions in Tiers II and III and also support instruction in the core general education curriculums. Social workers, school psychologists and counselors may provide tiered intervention and instruction in the social-emotional learning and also provide these supports in the core curriculums. Speech and Language pathologists and special education teachers may support core instruction by consulting with staff members and/or co-teaching. In addition, speech and language clinicians may provide language instruction in Tiers II and III and special education teachers also may support instruction provided by certified staff members in Tiers II and III. For more information on certification see Connecticut State Department of Education Web site at www.sde.ct.gov/sde/cwp/view.asp?a=2613&Q=321230.

Q: When is specially designed instruction necessary?

A: Specially designed instruction may be necessary for students who require instruction that is qualitatively different from the instruction provided in the three-tiered general education model (as opposed to students who simply require a greater quantity or intensity of instruction). For example, students identified with certain disabilities, such as severe sensory impairments or severe autism spectrum disorders, often require specially designed instruction. Some students who fail to respond to Tier III interventions also may require specially designed instruction.

Q: How will the needs of students identified with a disability be supported through SRBI?

A: Implementation of SRBI will help to ensure effective core practices for all students. A student with a disability will have access to these core practices, in addition to interventions in Tier II and/or Tier III and specialized instruction through special education. The student's program will be detailed in the Individualized Education Program (IEP) which must be reviewed annually.

Q: Will an IQ-achievement discrepancy continue to be required for identification of learning disabilities?

A: It is anticipated by July 1, 2009, a forthcoming revision of Connecticut state guidelines will no longer allow the use of an IQ-achievement discrepancy as one of the criteria for determination of learning disabilities. The use of data from SRBI will be required as one of the components of a comprehensive evaluation. Because full implementation of SRBI requires planning, school and district personnel should begin work on developing their process. In addition, a number of other criteria will continue to be required for identification of learning disabilities, including documentation that the student meets exclusionary criteria. Implementation of SRBI will not eliminate the need for schools to find students

identified as having a learning disability, but can ensure an accurate classification of students by improving its general education practices.

In eligibility determinations, school personnel sometimes are concerned with distinguishing between learning disabilities and intellectual disabilities. Elimination of the IQ-achievement discrepancy requirement does not affect the option that school personnel have to administer appropriate IQ tests when they deem those measures to be necessary. For example, school personnel may decide to administer an appropriate IQ measure as one part of a comprehensive evaluation (CSDE, 2007b) if they have reason to believe that a student's difficulties may be due to intellectual rather than learning disabilities, as when the student displays a broad pattern of developmental delays rather than more specific academic difficulties.

Q: What should be done with parent requests for evaluation?

A: Parents always have the right to refer their child for consideration of eligibility for special education and related services by requesting an evaluation. The PPT must respond to all referrals in a timely fashion. If data demonstrate that a child is making progress, then the PPT may determine that an evaluation for special education eligibility is not warranted at this time. The parent always has a right to invoke dispute resolution procedures to challenge that decision. This is why it is important for staff members to inform and engage families about SRBI and to share progress monitoring outcomes regularly to demonstrate to parents that their child is making progress in the focus area(s) identified for improvement and how the improvement compares to grade level expectations.

Q: What should happen when a student fails to respond adequately to intervention?

A: Students who fail to respond adequately to Tier II interventions, even after attempts to modify and improve those interventions, should receive Tier III interventions (i.e., more intensive and/or individualized interventions). Students failing to respond to Tier III interventions, again including attempts to modify and improve those interventions, should receive particularly close scrutiny to determine why the student is making little to no progress. Among the issues that should be considered are whether the interventions implemented as designed are yielding the results for improvement over time. Based on these considerations, the team determines whether a comprehensive evaluation to determine eligibility for special education and related services is necessary. Comprehensive evaluations should include analysis of data gathered from the student's interventions, as well as the other kinds of data typically included in a comprehensive evaluation.

Q: What happens while students are in the process of undergoing comprehensive evaluation? Will they still receive interventions?

A: Yes. All students continue to have access to the appropriate tiers of instruction while they are in the process of undergoing a comprehensive evaluation.

Q: Will SRBI be used to identify students with other disabilities?

A: Although many of the concepts central to SRBI, especially the concept of multitiered interventions, grew out of research on learning disabilities, SRBI can benefit students with a variety of disabilities, not only LD. For example, a comprehensive system of social-emotional learning and behavioral supports

may enable students with emotional disabilities or autism spectrum disorders to function more successfully in general education settings than they otherwise would. This is particularly true when all students are educated in positive and safe school climates where differences are accepted and every student feels physically, emotionally and intellectually safe. Likewise, ensuring that students being evaluated for possible disabilities have had access to effective core instruction, culturally and linguistically responsive teaching, and comprehensive social-emotional learning and behavioral supports is important for all types of disabilities, not only learning disabilities.

aimline (goal-line): the straight line connecting a student's baseline level of performance with his or her long-range goal; the slope of the aimline shows the expected rate of improvement if the student is going to meet the long-range goal

baseline: the student's current level of performance in his or her focus area for improvement prior to implementation of an intervention

benchmark: important student outcomes or goals for a grade within a particular domain (e.g., reading), that students should be achieving during the course of a school year (e.g., fall, winter, spring) in order to be on target for end-of-grade performance by the end of that school year

benchmark assessments: assessments used to set benchmarks (e.g., according to local norms) and/or to determine whether students are achieving grade level standards

common formative assessments: assessments conducted during the process of student learning that are used primarily to inform instruction

comprehensive evaluation: an evaluation of a student that involves formal testing by specialists, with substantial input from general educators and families, to determine a student's eligibility for special education

comprehensive system of social-emotional learning and behavioral supports: a system that addresses a range of needs for all students in the social-emotional and behavioral domain, such as directly teaching important social-emotional skills, making behavioral expectations clear and consistent, and having a continuum of procedures for encouraging appropriate behaviors and discouraging inappropriate behaviors; the approach should be systemic (schoolwide or districtwide), have a preventive and positive orientation, and use empirically validated practices

core practices: general education curriculums, instruction and social/behavioral supports for all students; this is Tier I

curriculum-based measures (CBMs): measures for ongoing monitoring of students' progress through a curriculum; CBMs may be locally developed, but generic CBMs are also available for free download or purchase (e.g., DIBELs or AIMSweb)

cut point: cutoff scores on common benchmark assessments; cut points specify the score at or below which students would be considered for intervention

data teams: teams of educators that are responsible for data analysis and decision making and that function at the level of the district, school, and grade (or content area) as well as across grade levels in the same content area (i.e., vertical teams); they include as members school administrators, school psychologists, grade/content area general educators, various specialists and other behavioral/mental health personnel

decision rules: clear, specific guidelines for making data-driven decisions (e.g., at least 80 percent of all students should be meeting important academic benchmarks and social/behavioral expectations for the core curriculums, instruction and learning environment to be considered effective)

diagnostic assessments: additional assessments used both by general educators and specialists to clarify and target the needs of individual students when the information provided by other types of assessments, such as universal common assessments, is not sufficient or too broad

differentiated instruction: an approach to teaching that emphasizes ways to meet the differing needs of a group of students within the general education setting, for example, through the use of flexible small groups, varied instructional materials, or different ways of presenting the same content; differentiation of instruction is an integral part of Tier I

dual discrepancy: the comparison between rate of growth and level of performance compared to grade level standards.

DRGs: District Reference Groups (DRGs) are a classification system developed by the CSDE in which districts that have public school students with similar socioeconomic status (SES) and need are grouped together; grouping like districts together is useful in order to make valid comparisons among districts

fidelity of implementation: use and delivery of curriculums, instructional strategies, behavioral systems and interventions in the manner they were designed and intended to be used, for example, adhering to the treatment time and key features required for a particular intervention

flexible grouping: grouping of students that is changeable based on the purpose of the instructional activity and on changes in the instructional needs of individual students over time

high-stakes testing: standardized test results (i.e., CMT and CAPT) that are used for making major decisions, such as a school's designation under No Child Left Behind or a school's retention of accreditation

homogeneous grouping: grouping of students with similar instructional needs who are at similar levels, such as students who all require instruction in basic spelling skills

local norms: average patterns of performance defined in relation to a local population or subgroup, such as that of a school or district

long-range goal: an academic benchmark, academic outcome or behavioral goal for a student receiving intervention; if the intervention is effective, it will bring the student to his or her long-range goal

national norms: average patterns of performance defined in relation to a national population

progress monitoring: using data to track students' progress toward a goal

reliable: the consistency and accuracy of a test or other measure

school climate: the nature of the interrelationships among the people in the school physically, emotionally and intellectually; how the people within the school treat one another (adult to adult interactions, adult and student interactions and student to student interactions) through their actions of verbal and nonverbal exchanges, tone of voice and the use/abuse of inherent power advantages

slope: the slope of the trendline is compared to that of the aimline to measure a student's rate of improvement; if the slope of the trendline is less than that of the aimline, the student is not progressing at a rate sufficient enough to meet the goal in the time allotted

SRBI: instructional practices and interventions in a school or district that have been researched and determined to be effective for improved student outcomes or proven to excel student learning as evidenced by data

summative assessments: assessments that are employed mainly to assess cumulative student learning at a particular point in time (e.g., the Connecticut Mastery Test, the Connective Academic Performance Test)

systemic approach: an approach that is schoolwide or districtwide, with the same core curriculums, instructional strategies, universal common assessments and social/behavioral supports within a grade, and effective coordination across grades (as opposed to approaches in which different teachers within the same grade may differ widely in curricular emphases, instructional strategies, behavior management practices, etc.)

teacher support/intervention teams: teams of educators that are responsible for data analysis, decision making, and progress monitoring in Tier II and Tier III, and that may overlap with Tier I data teams; they include certain core members (e.g., principal, school psychologist) as well as other members that may rotate on and off the team depending on the needs of the student under consideration (e.g., specialist, ESL teacher or school social worker)

Tier I: the general education core curriculums, instruction and social/behavioral supports for all students, with differentiation of instruction as a norm

Tier II: short-term interventions for students who have not responded adequately to the general education core curriculums and differentiation of instruction; it is part of the general education system

Tier III: more intensive or individualized short-term interventions for students who fail to respond adequately to Tier I and/or Tier II interventions; it is also part of the general education system

trend: the response of a student undergoing intervention; if the intervention is effective, the trend will show improvement toward the student's long-range goal, whereas if the intervention is ineffective, the trend will show no improvement toward the goal or even worsening of performance (further away from the goal)

trendline: the single line of best fit when the student's successive scores during intervention are plotted on a graph; the slope of the trendline shows the student's rate of improvement

universal common assessments: a term for assessments that are given routinely to all students in a grade and that are the same for all students in a grade within a school or district; universal common assessments may be summative or formative and include, but are not limited to, benchmark assessments

valid: the extent to which a test actually measures what it is intended to measure

References

Al Otaiba, S. "Children Who Do Not Respond to Early Literacy Instruction: A Longitudinal Study Across Kindergarten and First Grade." *Reading Research Quarterly, 36*, 344-346, 2001.

Berman, P.; Chamblis, D. and Geiser, K.D. *Making the Case for a Focus on Equity in School Reform.* Emeryville, CA: RPP International, 1999.

Berninger, V. W. and Amtmann, D. "Preventing Written Expression Disabilities Through Early and Continuing Assessment and Intervention for Handwriting and/or Spelling Problems: Research Into Practice." In H. L. Swanson, K. R. Harris and S. Graham (Eds.), *Handbook of Learning Disabilities* (pp. 345-363). New York: Guilford Press, 2003.

Betsinger, A.; Garcia, S. B. and Guerra, P. "Addressing Teachers' Beliefs About Diverse Students Through Staff Development." *Journal of Staff Development 22(2),* 24-27, 2001.

Blanchett, W. J. "Disproportionate Representation of African-American Students in Special Education: Acknowledging the Role of White Privilege and Power." *Educational Researcher, 35,* 24-28, 2006.

Bluestein, Jane. *Creating Emotionally Safe Schools: A Guide for Educators and Parents.* Florida: Health Communication, 2001.

Blum, R.W.; McNeely, C.A. and Rinehart, P.M. *Improving the Odds: The Untapped Power of School to Improve the Health of Teens.* Minneapolis: University of Minnesota, 2002.

Blum, Robert. *School Connectedness: Improving Students' Lives.* Baltimore, Maryland: Johns Hopkins University, 2005.

Brown-Chidsey, R. and Steege, M. W. *Response to Intervention: Principles and Strategies for Effective Practice.* New York: Guilford Press, 2005.

Cartledge, G. and Kourea, L. "Culturally Responsive Classrooms for Culturally Diverse Students with and at Risk for Disabilities." *Exceptional Children, 74(3),* 351-371, 2008.

Chambers, J.G.; Parrish, T. and Harr, J.J., 2002. *What Are We Spending on Special Education Services in the United States, 1999-2000.* Palo Alto, CA: American Institutes for Research. Accessed June 20, 2008, from www.csef.air.org.

Coleman, M. R.; Buysse, V. and Neitzel, J. *Recognition and Response: An Early Intervening System for Young Children at Risk for Learning Disabilities. Full Report.* Chapel Hill, NC: The University of North Carolina at Chapel Hill, FPG Child Development Institute, 2006.

Collaborative for Academic, Social and Emotional Learning. *Safe and Sound: An Educational Leader's Guide to Evidence-Based Social and Emotional Learning (SEL) Programs.* Laboratory for Student Success (LSS), 2003.

Connecticut Accountability for Learning Initiative, 2007. *Initiative Information*. Accessed June 20, 2008, from the Connecticut State Department of Education Web site: www.sde.ct.gov/sde/cwp/view.asp?a=2618&Q=321754.

Connecticut Coalition for Achievement Now. *The State of Connecticut Public Education.* New Haven, CT: ConnCAN, 2007.

Connecticut Early Childhood Education Cabinet, 2006. *Ready by 5 and Fine by 9: Connecticut's Early Childhood Investment Framework.* Accessed June 20, 2008, from the Early Childhood Research and Policy Council Web site: www.ecpolicycouncil.org/docs/ready5_fine9.pdf.

Connecticut State Department of Education. *Guidelines for Identifying Children with Learning Disabilities (2nd edition)*. Hartford, CT: Connecticut State Department of Education, 1999.

Connecticut State Department of Education, 2000. *Connecticut's Blueprint for Reading Achievement: The Report of the Early Reading Success Panel*. Accessed June 20, 2008, from the Connecticut State Department of Education Web site: www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=320850.

Connecticut State Department of Education, 2007a. *Beyond the Blueprint: Literacy in Grades 4-12 and Across the Content Areas*. Accessed June 20, 2008, from the Connecticut State Department of Education Web site: www.sde.ct.gov/sde/cwp/view.asp?a=2618&Q=321834.

Connecticut State Department of Education. *Guidelines for Identifying Children with Intellectual Disability.* Hartford, CT: Connecticut State Department of Education, 2007b.

Cummins, J. *Negotiating Identities: Education for Empowerment in a Diverse Society.* Los Angeles, CA: California Association for Bilingual Education, 2001.

Deno, S. L. "Developments in Curriculum-Based Measurement." *Journal of Special Education, 37,* 184-192, 2003.

Denton, C. A.; Fletcher, J. M.; Anthony, J. L. and Francis, D. J. "An Evaluation of Intensive Intervention for Students with Persistent Reading Difficulties." *Journal of Learning Disabilities, 39,* 447-466, 2006.

Ellis, A.K. *Research on Educational Innovations* (4th edition). Larchmont,NY: Eye on Education, Inc., 2005.

Espin, C.A.; Busch, T.; Shin, J. and Kruschwitz, R. "Curriculum-Based Measures in the Content Areas: Validity of Vocabulary-Matching Measures as Indicators of Performance in Social Studies." *Learning Disabilities Research and Practice, 16*, 142-151, 2001.

Fairbanks, S.; Sugai, G.; Guardino, D. and Lathrop, M. "Response to Intervention: Examining Classroom Behavior Support in Second Grade." *Exceptional Children, 73,* 288-310, 2007.

Fletcher, J. M.; Shaywitz, S. E.; Shankweiler, D. P.; Katz, L.; Liberman, I. Y.; Stuebing, K. K.; Francis, D. J.; Fowler, A. E. and Shaywitz, B. A. "Cognitive Profiles of Reading Disability: Comparisons of Discrepancy and Low Achievement Definitions." *Journal of Educational Psychology, 86*, 6-23, 1994.

Francis, D.; Rivera, M.; Lesaux, N.; Kieffer, M. and Rivera, H., 2006. *Practical Guidelines for the Education of English Language Learners: Research-Based Recommendations for Instruction and Academic Interventions.* Portsmouth, NH: RMC Research Corporation, Center on Instruction. Available online at www.centeroninstruction.org/files/ELL1-Interventions.pdf.

Friedman, T. L. *The World is Flat: A Brief History of the Twenty-First Century.* New York: Farrar, Straus and Giroux, 2006.

Fuchs, L. "The Past, Present and Future of Curriculum-Based Measurement Research." *School Psychology Review, 33,* 188-192, 2004.

Fuchs, D. and Fuchs, L. "A Model for Implementing Response to Intervention." *Council for Exceptional Children, 39*, 14-20, 2007.

Fuchs, D.; Mock D.; Morgan, P. and Young, C. "Responsiveness to Intervention – Definitions, Evidence and Implications for the Learning Disabilities Construct." *Learning Disabilities Research and Practice, 18,* 157-171, 2003.

Fuchs, L. S.; Fuchs, D. and Hollenbeck, K. N. "Extending Responsiveness to Intervention to Mathematics at First and Third Grades." *Learning Disabilities Research and Practice, 22*, 13-24, 2007.

Garcia, S and Guerra, P. "Deconstructing Deficit Thinking: Working with Educators to Create More Equitable Learning Environments." *Education and Urban Society, 36,* 150-168, 2004.

Gay, G. *Culturally Responsive Teaching: Theory, Research and Practice*. New York: Teachers College Press, 2000.

Genesee, F.; Paradis, J. and Crago, M. *Dual Language Development and Disorders: A Handbook on Bilingualism and Second Language Learning.* Baltimore, MD: Brookes Publishing Co., 2004.

Gerber, M. M. and Durgunoglu, A. Y., guest editors. "Reading Risk and Intervention for Young English Learners" (special series). *Learning Disabilities Research and Practice, 19,* 199-272, 2004.

Good, R. H.; Simmons, D. C. and Kame'enui, E. J. "The Importance and Decision Making Utility of a Continuum of Fluency-Based Indicators of Foundational Reading Skills for Third-Grade High-Stakes Outcomes." *Scientific Studies of Reading*, *5*, 257-288, 2001.

Good, T.L. and Nichols, S.L. "Expectancy Effects in the Classroom: A Special Focus on Improving the Reading Performance of Minority Students in First-Grade Classrooms." *Educational Psychologist, 36,* 113-126, 2001.

Greenberg, M. T.; Weissberg, R. P.; Utne O'Brien, M.; Zins, J. E.; Fredericks, L.; Resnik, H. and Elias, M. J. Enhancing School-based Prevention and Youth Development Through Coordinated Social, Emotional and Academic Learning. *American Psychologist, 58*, 466-474, 2003.

Harris, B. and Klingner, J. *Why Are So Many Minority Students in Special Education? Understanding Race and Disabilities in Schools.* New York: Teachers' College Press, 2005.

Hawkins, J. D. "Academic Performance and School Success: Sources and Consequences." In R. P. Weissberg, T. P. Gullotta, R. L. Hampton, B. A. Ryan and G. R. Adams (Eds.), *Enhancing children's wellness* (pp. 278-305). Thousand Oaks, CA: Sage Publications, 1997.

Henderson, A. and Mapp, K. *A New Wave of Evidence: The Impact of School, Family and Community Connections on Student Achievement.* Austin, TX: Southwest Educational Development Laboratory, 2002.

Horner, R. and Sugai, G. 2004. "*School-Wide Positive Behavior Support: Implementers' Blueprint and Self-Assessment."* OSEP Center on Positive Behavioral Interventions and Supports, University of Oregon. Available online at www.osepideasthatwork.org/toolkit/pdf/SchoolwideBehaviorSupport.pdf.

Horner, R.; Sugai, G.; Smolkowski, K.; Eber, L.; Nakasato, J.; Todd, A. and Esperanza, J. (in press). "A Randomized, Wait-list Controlled Effectiveness Trial Assessing School-wide Positive Behavior Support in Elementary Schools." *Journal of Positive Behavior Interventions.*

Hosp, M. and Hosp, J. "Curriculum-Based Measurement for Reading, Spelling, and Math: How to Do it and Why." *Preventing School Failure, 48,* 10-17, 2003.

Juel, C. "Learning to Read and Write: A Longitudinal Study of 54 Children From First to Fourth Grades." *Journal of Educational Psychology, 80(4),* 437-447, 1988.

Klingner, J. K.; Sorrells, A. M. and Barrera, M. "Three-Tiered Models with Culturally and Linguistically Diverse Students." In D. Haager, J. Klingner and S. Vaughn (Eds.), *Validated reading practices for three tiers of intervention* (pp. 223-244). Baltimore, MD: Brookes Publishing Co., 2007.

Kutash, K.; Duchnowski, A. J. and Lynn, N. *School-Based Mental Health: An Empirical Guide for Decision-Makers.* Tampa, FL: University of South Florida, The Louis de la Parte Florida Mental Health Institute, Department of Child and Family Studies, Research and Training Center for Children's Mental Health, 2006.

Ladson-Billings, G. *The Dreamkeepers*. San Francisco, CA: Jossey Bass, 1994.

Leach, J. M.; Scarborough, H. S. and Rescorla, L. "Late-Emerging Reading Disabilities." *Journal of Educational Psychology, 95*, 211-224, 2003.

Losen, D. and Orfield, G. *Racial Inequity in Special Education*. Cambridge, MA: Harvard Education Press, 2002.

Lyon, G. R. "The Future of our Children: Special Education for Students with Disabilities"*, Learning Disabilities: Research and Practice 6,* 54-76, 1996.

Lyon, G. R. and Fletcher, J.M. "Early Warning System: How to Prevent Reading Disabilities." *Education Matters, Summer,* 22-29, 2001.

Malecki, C. K. and Elliott, S. N. "Children's Social Behaviors as Predictors of Academic Achievement: A Longitudinal Analysis." *School Psychology Quarterly*, *17*, 1-23, 2002.

Marston, D.; Muyskens, P.; Lau, M. and Canter, A. "Problem-Solving Model for Decision Making with High-Incidence Disabilities: The Minneapolis Experience." *Learning Disabilities: Research and Practice, 18*, 187–200, 2003.

Marzano, R. J.; Pickering, D. J. and Pollock, J. E. *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement*. Baltimore, MD: Association for Supervision and Curriculum Development, 2001.

McCook, J. E. *The RTI Guide: Developing and Implementing a Model in your Schools.* Horsham, PA: LRP Publications, 2006.

National Association of School Psychologists, 2006. *The Role of the School Psychologist in the RTI Process.* Accessed June 20, 2008, from the National Association of School Psychologists Web site: www.nasponline.org.

National Association of State Directors of Special Education. *Myths About Response to Intervention (RTI) Implementation*. Alexandria, VA: National Association of State Directors of Special Education, 2006.

National Association of State Directors of Special Education. *Response to Intervention: Policy Considerations and Implementation.* Alexandria, VA: National Association of State Directors of Special Education, 2005.

National Center for Learning Disabilities, 2007. *IDEA 2004: Changes to the Identification and Eligibility Procedures for Specific Learning Disability – Frequently Asked Questions.* Accessed June 20, 2008, from the National Center for Learning Disabilities Web site: www.ncld.org/index.php?option=content&task=view&id=283.

National Reading Panel. *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction*. Washington, DC: National Institutes of Health, 2000.

National Research Council. *Preventing Reading Difficulties in Young Children*. Washington, DC: National Academy Press, 1998.

National Research Council. *Minority Students in Special and Gifted Education.* Washington, DC: National Academy Press, 2002.

National Technical Assistance Center on Positive Behavioral Interventions and Supports, 2007. *School-wide PBS.* Accessed June 20, 2008, from the National Technical Assistance Center on Positive Behavioral Interventions and Supports Web site: www.pbis.org/schoolwide.htm.

O'Shaughnessy, T. E.; Lane, K. L.; Gresham, F. M. and Beebe-Frankenberger, M. E. "Children Placed at Risk for Learning and Behavioral Difficulties: Implementing a School-Wide System of Early Identification and Intervention." *Remedial and Special Education, 24*, 27-35, 2003.

Quenemoen, R.; Thurlow, M.; Moen, R.; Thompson, S. and Morse, A. *Progress Monitoring in an Inclusive Standards-Based Assessment and Accountability System* (Synthesis Report 53). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes, 2004.

RAND Reading Study Group. *Reading for Understanding: Toward a R&D Program in Reading Comprehension.* Arlington, VA: RAND, 2002.

Reschly, D. *What if LD Identification Changed to Reflect Research Findings?* Paper presented at the National Research Center on Learning Disabilities Symposium on Responsiveness-to-Intervention, Kansas City, MO, December 2003.

Reeves, D. B. *Making Standards Work* (3rd edition). Denver, CO: Advanced Learning Press, 2002.

Research Institute on Progress Monitoring, 2007. *Background Information on Progress Monitoring and Curriculum-Based Measurement.* Accessed June 20, 2008, from the Researh Institute on Progress Monitoring Web site: www.progressmonitoring.net/RIPMBackgroundInfo2.html.

Sadler, C. and Sugai, G. (in press). "Effective Behavior and Instructional Support: A District Model for Early Identification and Prevention of Reading and Behavior Problems. *Journal of Positive Behavior Interventions.*

Safran, S. P. and Oswald, K. "Positive Behavior Supports: Can Schools Reshape Disciplinary Practices?" *Exceptional Children, 69,* 361-373, 2003.

Shaywitz, S. *Overcoming Dyslexia: A New and Complete Science-Based Program for Reading Problems at Any Level*. New York: Knopf, 2003.

Singleton, G. and Linton, C. *Courageous Conversations About Race: A Field Guide for Achieving Equity in Schools*. Thousand Oaks, CA: Sage Publications, 2005.

Skiba, R.J. and Peterson, R.L. "School Discipline: From Zero Tolerance to Early Response." *Exceptional Children, 66,* 335-347, 2000.

Snow, C. E.; Barnes W. S.; Chandler, J.; Goodman, J. F. and Hemphill, L. *Unfulfilled Expectations: Home and School Influences on Literacy*. Cambridge, MA: Harvard University Press, 1991.

Spear-Swerling, L. and Sternberg, R. *Off Track: When Poor Readers Become "Learning Disabled."* Boulder, CO: Westview Press, 1996.

Speece, D. L.; Case, L. P. and Molloy, D. W. "Responsiveness to General Education Instruction as the First Gate to Learning Disabilities Identification." *Learning Disabilities Research and Practice, 18*, 147-156, 2003.

Speece, D. L. and Shekitka, L. "How Should Reading Disabilities be Operationalized? A Survey of Experts." *Learning Disabilities Research & Practice, 17,* 118-123, 2002.

Sugai, G. and Horner, R. H. 2007. *Evidence Base for School-wide Positive Behavior Support.* Accessed June 20, 2008, from the OSEP Center for Positive Behavioral Interventions and Support Web site www.pbis.org.

Sugai, G.; Horner, R. H.; Dunlap, G.; Hieneman, M.; Lewis, T. J.; Nelson, C. M.; Scott, T.; Liaupsin, C.; Sailor, W.; Turnbull, A. P.; Turnbull, H. R., III; Wickham, D.; Reuf, M. and Wilcox, B. "Applying Positive Behavioral Support and Functional Behavioral Assessment in Schools. *Journal of Positive Behavioral Interventions, 2,* 131-143, 2000.

Teaching Diverse Learners, 2007. *Principles for Culturally Responsive Teaching*. Accessed June 20, 2008, from the Education Alliance at Brown University, Teaching Diverse Learners Web site: www.alliance.brown.edu/tdl/tl-strategies/crt-principles.shtml#sensitivity.

The Leadership and Learning Center, 2008. *Instruction and Assessment.* Accessed June 20, 2008, from The Leadership and Learning Center Web site: www.leadandlearn.com/displayPage/65

Tomlinson, C. and McTighe, J. *Integrating Differentiated Instruction with Understanding by Design.* Alexandria, VA: Association for Supervision and Curriculum Development, 2006.

Torgesen, J.K. "*Preventing Reading Difficulties in Very Large Numbers of Students: The Reading First Initiative*." Presentation at the Annual Conference of the International Dyslexia Association, Indianapolis, IN, November, 2006.

U. S. Department of Education, 2003. *Identifying and Implementing Educational Practices Supported by Rigorous Evidence: A User-Friendly Guide.* Washington, DC: U.S. Department of Education. Available online at www.ed.gov/rschstat/research/pubs/rigorousevid/index.html.

Vaughn, S.; Linan-Thompson, S. and Hickman, P. "Response to Instruction as a Means of Identifying Students with Reading/Learning Disabilities." *Exceptional Children, 69*, 391-409, 2003.

Valencia, R.; Valenzuela, A.; Sloan, K. and Foley, D.E. "Let's Treat the Cause, Not the Symptoms: Equity and Accountability in Texas Revisited." *Phi Delta Kappan, 83,* 321-326, 2001.

Vellutino, F. R. and Scanlon, D. M. "Emergent Literacy Skills, Early Instruction, and Individual Differences as Determinants of Difficulties in Learning to Read: The Case for Early Intervention." In S. B. Neuman and D. K. Dickinson (Eds.), *Handbook of Early Literacy Research* (pp. 295-321). New York: Guilford Press, 2002.

Vellutino, F. R.; Scanlon, D. M. and Lyon, G. R. "Differentiating Between Difficult-to-Remediate and Readily Remediated Poor Readers: More Evidence Against the IQ-Achievement Discrepancy Definition of Reading Disability." *Journal of Learning Disabilities, 33*, 223-238, 2000.

Vellutino, F. R.; Scanlon, D. M.; Sipay, E. R.; Small, S.; Chen, R.; Pratt, A. and Denckla, M. B. "Cognitive Profiles of Difficult-to-Remediate and Readily Remediated Poor Readers: Early Intervention as a Vehicle for Distinguishing Between Cognitive and Experiential Deficits as Basic Causes of Specific Reading Disability." *Journal of Educational Psychology, 88,* 601-638, 1996.

Wessler, S.L. and Preble, W. *The Respectful School: How Educators and Students Conquer Hate and Harassment.* Alexandria, VA: Association for Supervision and Curriculum Development, 2003.

Appendix I

SRBI Advisory Panel Members

JoAnn Andrees, Former Superintendent, West Haven Public Schools

Christopher Banach, Special Education Teacher, Newington Public Schools

Ingrid Canady, Consultant, SERC

Nancy Cappello, Consultant, CSDE

Marianne Cavanaugh, Math Specialist, Project Opening Doors

Karen Costello, Administrator for Program Improvement, East Lyme Public Schools

Michael Coyne, Program Coordinator for Special Education, UCONN

George Dowaliby, Director of TABs, CREC

Craig Edmondson, Executive Director, ACES

Rossella Fanelli, School Psychologist, New Canaan Public Schools

Margie Gillis, Project Director, Haskins Laboratories

James Granfield, Interim Dean, School of Education, SCSU

Joan Hofmann, Professor of Special Education, Saint Joseph College

Susan Kennedy, Bureau Chief, CSDE

Brenda Key, Teacher, West Hartford Public Schools

Marianne Kirner, Director, SERC

Michelle LeBrun-Griffin, Consultant, SERC (Facilitator)

Mary Ann Marold, Liaison to Gov., Business and Community, Waterbury Public Schools

Meghan Martins, Consultant, CSDE

Jule McCombes-Tolis, Professor of Special Education, SCSU

Barbara Mechler, Principal, Naugatuck Public Schools

Perri Murdica, Consultant, CSDE

Donna Page, Principal, Newtown Public Schools

Rose Paolino, School Counselor, West Haven Public Schools

Nancy Prescott, Director, CPAC

Frances Rabinowitz, Superintendent, Hamden Public Schools

Michael Regan, Director of Pupil Services, Newtown Public Schools

Thomas Scarice, Assistant Superintendent, Weston Public Schools

David Scata, Director of Pupil Services, East Haddam Public Schools

Rena Schine, School Psychologist and Advocate, CACLD

Louise Spear-Swerling, Professor of Special Education and Reading, SCSU

Gaeton Stella, Superintendent, Woodbridge Public Schools

George Sugai, Professor and Neag Endowed Chair, UCONN

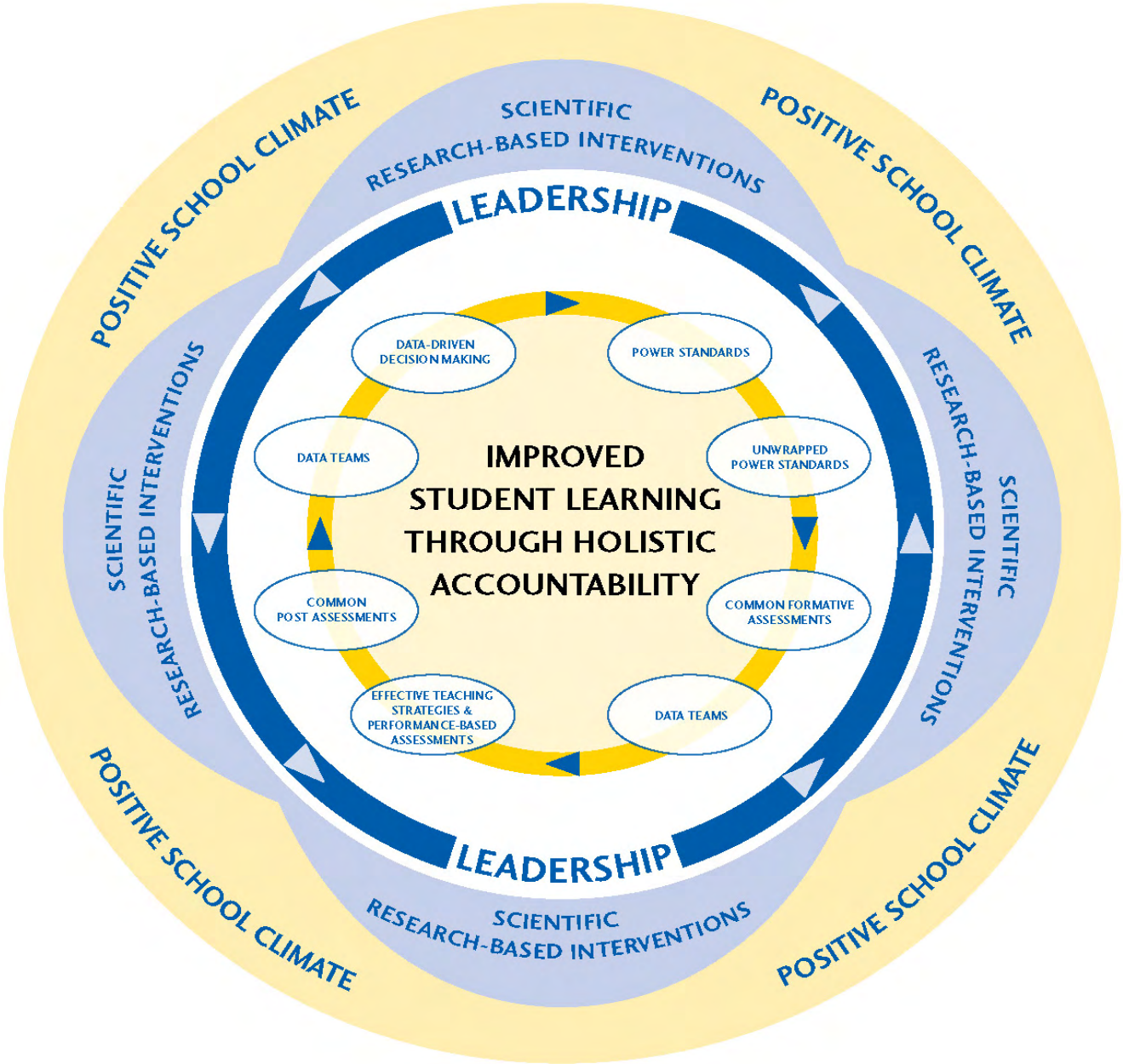
Charlene Tate-Nichols, Consultant, CSDE

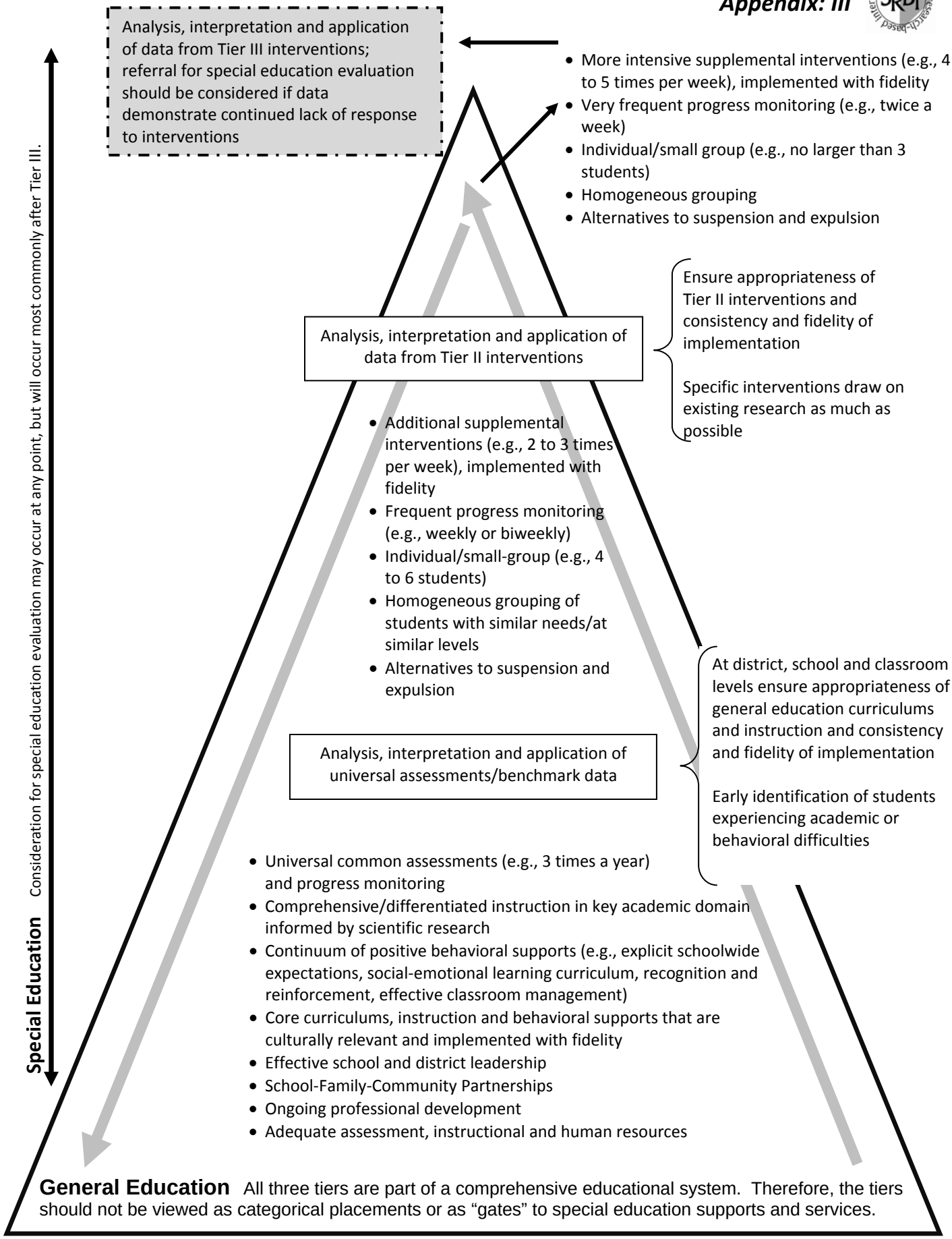
Palma Vaccaro, Director of Pupil Services, Meriden Public Schools

Michael Wasta, Leader-in-Residence, CSDE

Celinda Weber, Special Education Teacher, Ellington Public Schools

Connecticut's Accountability for Learning Initiative (CALI)




Analysis, interpretation and application of data from Tier III interventions; referral for special education evaluation should be considered if data demonstrate continued lack of response to interventions
• More intensive supplemental interventions (e.g., 4 to 5 times per week), implemented with fidelity
• Very frequent progress monitoring (e.g., twice a week)
• Individual/small group (e.g., no larger than 3 students)
• Homogeneous grouping
• Alternatives to suspension and expulsion
Special Education Consideration for special education evaluation may occur at any point, but will occur most commonly after Tier III.
Analysis, interpretation and application of data from Tier II interventions
Ensure appropriateness of Tier II interventions and consistency and fidelity of implementation
Specific interventions draw on existing research as much as possible
• Additional supplemental interventions (e.g., 2 to 3 times per week), implemented with fidelity
• Frequent progress monitoring (e.g., weekly or biweekly)
• Individual/small-group (e.g., 4 to 6 students)
• Homogeneous grouping of students with similar needs/at similar levels
• Alternatives to suspension and expulsion
Analysis, interpretation and application of universal assessments/benchmark data
At district, school and classroom levels ensure appropriateness of general education curriculums and instruction and consistency and fidelity of implementation
Early identification of students experiencing academic or behavioral difficulties
• Universal common assessments (e.g., 3 times a year) and progress monitoring
• Comprehensive/differentiated instruction in key academic domain informed by scientific research
• Continuum of positive behavioral supports (e.g., explicit schoolwide expectations, social-emotional learning curriculum, recognition and reinforcement, effective classroom management)
• Core curriculums, instruction and behavioral supports that are culturally relevant and implemented with fidelity
• Effective school and district leadership
• School-Family-Community Partnerships
• Ongoing professional development
• Adequate assessment, instructional and human resources
General Education All three tiers are part of a comprehensive educational system. Therefore, the tiers should not be viewed as categorical placements or as "gates" to special education supports and services.

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