SPECIAL EDUCATION 2007

A Survey of Current Research and Practice

A Report to Regina Public Schools

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EXECUTIVE SUMMARY

This review of the literature was commissioned by the Regina Public Schools' Student Support Services Review Commmittee (SSSRC) to address the question: *What is the current status of our knowledge about effective practices and related student outcomes in the field of special education?* The purpose of the review is to draw upon the research literature to describe special education trends in public education and their efficacy in enhancing learning outcomes for students with special needs. The products of this review are intended to provide one source of information to assist the deliberations and decisions of the Student Services Review Committee.

The researcher built the review around themes generated by the SSSRC and through a scan of topics at the International Council for Exceptional Children 2007 annual conference. Primary considerations related to cultural perspectives and evidence-based practices were identified and discussed. The findings of the review addressed the question: *What is the current status of our knowledge and emerging trends pertaining to program and service delivery models for students with special needs?* Within this mandate, the SSSRC asked that the literature review identify emerging trends in special education and probe directions for the next 5-10 years. By far the most prominent direction has been the inter-related concepts of *Response-to-Intervention (RTI), Evidence-based practices (EBP), and 3-Tier Models (3TM).*

RTI is the practice of providing high quality instruction and interventions matched to student learning needs, monitoring student progress frequently to make changes in instruction or goals, and applying assessment data to make educational decisions. RTI focuses on early identification of learning and behavioral needs and the provision of appropriate evidence-based interventions in order to address skill gaps early to keep them from becoming larger issues. RTI is a school-wide prevention approach, the foundation of which is quality core instruction within the general education classroom. More intensive supports and services, academic and behavioral interventions, are provided to struggling students based on data collection and analysis. These supports and services vary in intensity based on student need, and may be provided by a variety of personnel, including general education teachers.

The review also addressed the question, *What are the benefits and outcomes of educating students with special needs in inclusive settings?* Research on inclusive schools revealed a growing body of evidence showing positive outcomes in educational, social and emotional, and economic domains. Recent studies have probed the factors that characterize effective inclusive schools. Within the above contexts, evidence-based practices were identified in the constituent service options of co-teaching, use of paraprofessionals, self-determination and transitions, parent/community involvement, collaboration and teamwork, and effective instruction. An emerging body of research evidence supports the organization of evidence-based instruction in tiers of intensity based on core (universal) provision, strategic (targeted) intervention, and intensive intervention.

Based on the prevailing current research evidence and directions, the researcher recommends that *the Regina Public Schools adopt, promote, and support the inter-related practices of RTI, EBP, and 3TM.* Implementation will take commitment, time , and resources. RTI is a systematic team-based problem-solving approach that requires fundamental changes for most schools, while holding out the promise of better outcomes for all students.

INTRODUCTION

Special education has long served as the structure designed to address the needs of exceptional learners. Over many decades, special education has evolved by a process of "progressive inclusion", from neglect to custodial care to segregated education to mainstreaming to inclusive education. Progressive inclusion has meant bringing children who are disabled out of their "special" classes and schools and into regular school environments, and reducing special education referrals and labels by strengthening regular school programs. While a public education was once viewed as a privilege for a few, it has evolved into a right for all. For students with disabilities, this has meant that access to a free and appropriate education is a right protected by law. Inclusion is the philosophy presently advocated by educators world-wide. The motive for choosing inclusion is to provide all students with equity of access and outcome so they may achieve full citizenship.

Progressive inclusion has certainly not unfolded without conflict. There have been, and continue to be, philosophical differences among many of the professionals and stakeholder groups. Those differences are most pronounced on the issue of inclusion of students with special education needs in the regular classroom. There are some proponents who would move the system as quickly as possible to a pure inclusion model – a model that would allow only temporary, transitional congregated placements and withdrawals. Others argue that for the foreseeable future, and perhaps ideally, there would continue to be a range of placements for students with special education needs.

It could be argued that the learning outcomes of those children most challenging to teach presents an educational system with its most rigorous test of quality and integrity. A system that is adaptable, learner-focused, and responsive to the transitory or ongoing needs of individuals is best prepared to address the learning needs of all its students. Progressive inclusion demands a new kind of school – one not based on separate structures and practices for regular and special education. Within such schools equity and excellence do not compete for scarce resources, but support one another in a single integrated vision of quality outcomes for all.

In this context, it is pertinent to ask the question: “What evidence exists to guide our decisions about how best to support the needs of the diverse learners in today’s schools and communities?”

Background

Directions for Diversity

In the spring of 1998, Minister of Education Pat Atkinson initiated a review of special education in Saskatchewan. The purpose of the review was to build on strengths, identify needed improvements, and ensure that special education resources were being invested effectively. The review was conducted by a five-member panel external to Government over a 16-month period, beginning in September, 1998. The Committee was given ten Terms of Reference -- foundational and philosophical basis, program and delivery, integrated services, funding, accountability, early screening and identification, professional preparation and development, knowledge and expertise, continuing dialogue, and parental involvement.

In January, 2000, the Special Education Review Committee delivered its final report, entitled *Directions for Diversity: Enhancing Supports to Children and Youth with Diverse Needs*. It contained a total of 58 recommendations. The broad outcomes of the study are captured in this quote from the Final Report:

> "The challenge that emerges from our research is to continue to promote the concept of inclusive schools. Within these schools there is a progressive movement toward enhancing capacity to meet the needs of an increasingly diverse student population in inclusive arrangements within the school. An important aspect of the challenge is the adoption of a commitment to move progressively toward inclusive principles and practices in the education of all students. This means constantly reflecting on our present practices in relation to changes (e.g., assistive technology) that are taking place in our field. The Special Education Review Committee believes that inclusive education is best operationalized within an inclusive schools framework." (p.38)

"Strengthening Supports", the Minister's response to the Special Education Review, was released in October, 2000. This document outlined Saskatchewan Learning's plans to implement the recommendations of the Special Education Review. In particular, Saskatchewan Education reaffirmed the philosophy of inclusive schools.

School^{PLUS}

Release of the Task Force on the Role of the School Report (School^{PLUS}) came in June, 2000. The recommendations in this report were complementary with the inclusive schools recommendations of the Special Education Review Committee. Saskatchewan Learning undertook a coordinated response in the years that followed.

In February 2002, the Government of Saskatchewan responded with a strong endorsement of a new vision for schools as centres of learning, support and community for the children, youth and families they serve. The School^{PLUS} concept stresses learning excellence for all students and calls for active involvement with families and support from human service providers and community members. It calls for all schools to adopt the philosophy and practices of community education.

The Effective Practices Framework recommended in Directions for Diversity was developed to provide schools, school divisions, and communities with key effective practices and resources to support local School^{PLUS} initiatives. The framework identifies six effective practices and critical elements of each practice and provides supportive print, web-based and human resources that offer in-depth information about their use. The areas of effective practices include: Caring and Respectful School Environment; Responsive Curriculum and Instruction; Assessment for Learning; Adaptive Leadership; Authentic Partnerships; and Comprehensive Prevention and Early Intervention.

Recent Saskatchewan Learning Initiatives

Saskatchewan Learning has recently undertaken a series of inter-related initiatives designed to enhance learning opportunities and outcomes for students in our schools.

In March 2006, Saskatchewan Learning released its *Continuous Improvement Framework*. This Pre-K-12 Continuous Improvement Framework is designed to assist school divisions in an annual strategic planning process that identifies and aligns system priorities with appropriate strategies, operational supports and learner outcome measures. The ultimate goal of the Continuous Improvement Framework is to strengthen teaching and learning and increase opportunities for improved student learning and outcomes.

The *Learning Program Renewal* was introduced in September 2006, with the aim of making the curriculum more inviting, informative, and accessible for teachers. The intention is to address the complexities and diversity in today's classrooms and identify new research-based approaches and supports. The goal is to improve learning outcomes for all Saskatchewan students by taking concrete steps to develop concise and educative curriculum.

Most recently, in June 2007 Saskatchewan Learning announced the establishment of the *Supports for Learning Advisory Committee.* A major goal of this review is to "…provide a single, research-based policy and program framework that integrates into a clear and coherent whole all of the programs and initiatives in support of Children's Services and *supports for learning* that ensure positive student outcomes". Over a two-year period beginning in September 2007, this committee will undertake an assessment of the strengths and weaknesses of the full array of programs and initiatives currently in place.

Regina Public Schools Initiative

In January 2007, School Administrative Services of the Regina Public Schools established a Student Support Services Review Committee to conduct a review of Student Support Services programs and supports. This project was undertaken to ensure the ongoing delivery of appropriate and responsive programs and services for students with special needs.

The review process was given the following mandate:

- examine current prevalence rates and emerging trends for students with special needs in Regina Public Schools
- examine the current Student Support Service program and service delivery model to identify strengths and areas for improvement
- examine current research pertaining to program and service delivery models for students with special needs
- examine changing provincial funding for students with special needs and its impact on programming in Regina Public Schools
- recommend a program and service delivery model to enhance learning opportunities and outcomes for students with special needs
- recommend a timeline for a staged and sustainable implementation process
- seek input and feedback from stakeholder groups throughout the process

The Review Committee began meetings in January, with the intent of developing a Draft Student Support Services Program and Service Delivery Model for October/November 2007. Early in its deliberations, the Committee identified the following themes to guide the review process:

- Classroom diversity and increasing student needs

- Change in Saskatchewan Learning funding
- Division's current emphasis on program placement
- Teachers evolving roles and needed supports
- Identifying and meeting student needs with student - centered philosophies
- Parental roles and relationships
- Transitions throughout the system
- Equity of services throughout the system
- Need for an inclusionary framework
- First Nations/Métis education models
- Differentiation of instruction to address behavior challenges
- Addressing teacher training at the University level
- Stakeholder perceptions of Student Support Services
- Learning outcome measures related to services being provided

The Review Committee also identified a list of essential participants for the review:

- Stakeholders: parents students, teachers, elders and Aboriginal leaders, special needs organizations, health district organizations, school division staff, North Central Core
- Focus Groups
- Prevalence data
- Comparator School Divisions
- Presentations to the Committee

Focus group research conducted by Jacquie Messer-Lepage identified a number of key areas of concern that were categorized as follows:

- Communication: internal (within branch, division, and school); external (with Sask. Learning, general perception is that 'they' never consult or validate policy decisions with front line workers to ensure that it is possible to operationalize concepts)
- Transitions: no formal transition planning; very ad hoc, and dependant on time and interest of the specific teacher/administrator; case management/coordination of care is inconsistent and dependant on administration
- Resources: includes shortage in specific consulting areas (Ed. Psych; OT - only one 0.30FTE resource for the division; Speech Language Pathology; Social Workers); within individual schools, teachers fundraising for activities that support the student PPP
- Process: inconsistent between schools (very dependant on administration); inconsistent program delivery; lines of authority are grey and complicated - school admin. has ability to define program delivery, despite the fact that SSS employees report through SSS Branch
- Information Technology: inconsistent access to IT software/hardware; no/minimal support for IT once it is introduced causes major issues for end users; technology is not fully leveraged; unclear as to whether or not there is a strategic approach to procurement.
- Equity: program access decisions influenced by level of familial support; program access influenced by 'squeaky wheel' and/or politics; access by consultants to resources (perception of inequality)
- Program Gaps: a number of concerns – Autism Spectrum Disorders - needs not met; intensive health needs are escalating with little training; mental health issues - unprepared to deal with these.

Purpose of the literature Review

As part of its comprehensive mandate, the Student Support Services Review Committee has been asked to "examine current research pertaining to program and service delivery models for students with special needs". The research and knowledge base in special education and related disciplines continues to progress and increase in complexity. Hence, a current targeted literature review was commissioned to address the question:

What is the current status of our knowledge about effective practices and related student outcomes in the field of special education?

The purpose of this review is to draw upon the research literature to describe special education trends in public education and their efficacy in enhancing learning outcomes for students with special needs. The products of this review are intended to provide one source of information to assist the deliberations and decisions of the Student Services Review Committee.

To assist in targeting this review, consultation took place on June 14th between the researcher and representatives of the Review Committee. The following guidelines were identified for the literature review:

- Emerging trends in special education (directions for next 5-10 years)
- The challenge of diversity in the classroom (classroom teacher concerns, stress, support)
- Congregated programs versus classroom supports
- Paraprofessionals: role, relationship to other supports
- Measuring outcomes for students with special needs
- Partnerships: community, parents, agencies
- Professional services: outcomes for psychologists, counselors, SLPs, OT.
- ESL and at-risk populations: included in Student Support Services structure

Research Perspective and Process

Readers of professional literature know how difficult it is to keep up with the breadth and flow of professional publications. Most confess to coping with a long list of material to be read and the need to be selective in the face of this challenge. Scanlon and colleagues (Scanlon, Boudah, Elksnin, Gersten, & Klingner, 2003) report that a total of 1,005 education journals are published annually in the United States, 75 of which are devoted to special education. The articles published in these journals range from reports of empirical research findings to qualitative studies, mixed methodologies, meta-analyses of bodies of literature, and theoretical papers. The studies also vary on many dimensions such as the populations under study, methodologies, and measurement methods. These factors all lead to a complex scene, one in which contradictory findings and interpretations of findings are commonplace. Even frequent replications can prove inconclusive. Literature on a topic may be so extensive as to obscure trends with an overwhelming amount of information. There is no landmark study or single authoritative source one can look to for definitive guidance.

Berliner (2002) proposed that science in education is not a hard science, like physics and chemistry, but it is the "hardest-to-do science." Berliner stated,

> We [educational researchers] do our science under conditions that physical scientists find intolerable. We face particular problems and must deal with local conditions that limit generalizations and theory building – problems that are different from those faced by the easier-to-do sciences [chemistry, biology, medicine]. (p. 18)

Special education research, because of its complexity, may be the hardest of the hardest-to-do science. Special education researchers must deal with the variability of the participants. There are many categories in special education, and within these categories are several different identifiable conditions. For example, in addition to "typical" learning disabilities, attention deficit/hyperactive disorder is often subsumed under the Specific Learning Disabilities category. Adding to this variability is the greater ethnic and linguistic diversity arising from overrepresentation of some minority groups. A second dimension of complexity is the educational context. Special education extends beyond the traditional conceptualization of "schooling" for typical students, often involving participation in settings outside the classroom both simultaneously and over time (Odom, Brantlinger, Gersten, Horner, Thompson, & Harris, 2005).

In the face of this complexity, how does a researcher conducting a literature review arrive at a balanced perspective, one that will portray as accurate a reflection as possible of the current state of knowledge in the area under study? Since such a review is necessarily selective, there is a danger that the researcher's own biases will influence the studies chosen and, thereby, the outcomes of the review. Accordingly, this review has drawn upon multiple sources of evidence to address the research questions posed here. These sources are described briefly below.

Narrative Reviews

Most reviews of research evidence take the form of traditional or narrative literature reviews, which usually examine the results of only a small part of the research evidence, and take the claims of report authors at face value. Narrative reviews are summaries of research that lack an explicit description of a systematic approach, and they lack methods to limit the intrusion of bias in the summary or the conclusions. Despite the emerging dominance of systematic reviews, narrative reviews persist.

Systematic Reviews

The systematic review is an attempt to address the drawbacks of the narrative review as follows: explicit and transparent methods are used; it is a piece of research following a standard set of stages; it is accountable, replicable and updateable; and there is a requirement of user involvement to ensure reports are relevant and useful. Systematic reviews aim to find as much as possible of the research relevant to the particular research questions, and use explicit methods to identify what can reliably be said on the basis of these studies. These reviews then go on to synthesize research findings in a form easily accessible to those who make policy or practice decisions.

Meta-Analyses

A meta-analysis goes further than a systematic review. Meta-analysis is a widely used and accepted research method that combines data across studies within a given area of interest. This is a research

method in which 1) a systematic and reproducible search strategy is used to find as many studies as possible that address a given topic; 2) clear criteria are presented for inclusion or exclusion of individual studies into a larger analysis; 3) results of included studies are statistically combined to determine an overall effect (effect size) of one variable on another. Combining the results of individual studies in this manner increases our confidence in the findings and helps us to better understand the factors that support effective interventions.

Longitudinal Studies

A longitudinal study involves repeated observations of the same people over long periods of time to study developmental trends across the life span. Because of the repeated observation at the individual level, these studies have more power than cross-sectional observational studies in tracking how traits change and interact over time. Longitudinal studies allow distinctions to be made between short and long-term outcomes.

Research Themes

The research process for this review was undertaken with the following plan. Key search words were derived from two sources – the themes identified by the Student Support Services Review Committee: classroom diversity, funding, program placement, teacher supports, differentiated instruction, student - centered philosophies, role of parents, transitions, inclusionary framework, First Nations/Métis education models, learning outcomes. Additional keywords were identified from the guidelines provided to the researcher by the Review Committee: emerging trends in special education, impact of diversity in the classroom, congregated programs versus classroom support, paraprofessionals, measuring outcomes for students with special needs, partnerships, roles of professional service providers, ESL and at-risk populations.

A research assistant undertook an initial search using these keywords, delimiting the search to studies since 2002. The results were vast, complex, and amorphous. It became apparent that a strategy would be needed to arrive at some workable structure and process for the review. Accordingly, the researcher decided to adopt a strategy to focus the review upon the targets provided by the Student Support Services Review Committee.

First, to capture emerging trends in special education, the researcher accessed the programs of this year's flagship international conference in Special Education – the Council for Exceptional Children 2007 Annual Convention & Expo held in Louisville, April 18-21. Pre-conference workshop topics, conference strands, and selected session topics were scanned for recurrent themes. Of 19 pre-conference workshops the dominant topic was "Response to Intervention and multi-tier models", the topic of six of the workshops. The primary topical strand, one of six strands for the conference, was entitled "Response to Intervention Meets the Road: Unaddressed Issues in Implementation". There were 34 topic areas, each consisting of a number of conference sessions. One of these topic areas consistent with the broad purpose of this literature review, "Models for General/Special Education", consisted of 33 individual presentations. I perused these 33 titles, assigned a keyword category to each, then performed a frequency count of these sessions. The resulting themes and their frequency were: Collaboration/Co-teaching (16), Response to Intervention/3-Tier Models (5), Inclusion

processes (4), Universal Design for Learning/Access to the Curriculum (3), Accommodations (2), Paraprofessionals (2), Problem-Solving Teams (1). These themes form part of this review.

As pointed out earlier, the breadth, volume and complexity of the research literature in special education makes reviewing this literature a daunting task. Fortunately, considerable attention and effort has been devoted to conducting research syntheses. To focus the literature review, we began by seeking published reports of research syntheses (e.g., inclusive schools, outcomes of inclusion, effective practices in inclusive schools). A large number of research syntheses were located, spanning over two decades of research in special education and related disciplines. The findings reported in this review have been drawn from the most frequently cited, highest quality, current syntheses available.

Primary Issues and Considerations

In attempting to identify a research base for effective practices, it is tempting to cut directly to the literature on "what works". However, it is essential to recognize the importance of conditions that enable an effective practice to become effective. Two contextual factors salient to the deliberations of the Student Support Services Review Committee are discussed below.

Cultural Considerations

One of the themes identified by the Student Support Services Review Committee at a February meeting was First Nations/Métis education models. It seems crucial to consider how culture mediates learning, since maintaining cultural relevance and perspective will need to be a primary consideration throughout the review process. Ultimately, the most effective interventions for culturally and linguistically diverse students will come from bringing together diverse perspectives and from careful examination of notions about disability and culture within their full socio-cultural and historical contexts (Klingner, Artiles et al., 2005).

In this regard, the following quote from Indian and Northern Affairs Canada's website relative to Quality in First Nations Education in Special Needs Education is relevant:

> "As stated in the AFN First Nations Special Education Policy, 'All learners have a right to be educated in the education setting most appropriate for their needs...' The AFN document further declares 'First Nation learners also have a right to access an education that encompasses their spiritual, physical, social, emotional, cultural and intellectual development and their education should prepare them for life long learning.' The FNEC document philosophy is reflected in the statement 'All First Nations children have the right to be educated in their community school, integrated with their peers in a regular classroom, that is, in as normalized and as least restrictive a classroom environment as is possible.' The First Nation view of inclusion has historical roots from the residential school era, but is also influenced by the lack of special education funding. Many First Nation students have been and some are still forced to attend provincial schools to receive services because special education services are not funded in First Nation schools."

In the United States, the Federal government has established the National Center for Culturally Responsive Educational Systems (NCCRESt) to provide technical assistance and professional development to close the achievement gap between students from culturally and linguistically diverse backgrounds and their peers, and reduce inappropriate referrals to special education.

In 2005, this body prepared a position statement on cultural considerations and challenges in Response-to-Intervention Models. Their two broad principles, along with illustrative quotes, are offered below:

1. Intervention design should be based on a theory of culture in learning.

   "Culturally responsive teachers make connections with their students as individuals while understanding the socio-cultural-historical contexts that influence their interactions and practices. It is important to acknowledge that current school practices and the normative curriculum are responsive to the dominant culture in society, yet they are generally not responsive to communities whose cultural practices differ from mainstream culture… However, research suggests that culturally responsive interventions can be designed and implemented to support learning…"

2. Research must account for how contextual contingencies and irregularities across contexts challenge ecological validity.

   "RTI models are based on the premise that all instruction should be evidence-based. But evidence derived in what contexts? Central to our approach is the belief that instructional methods do not work or fail as decontextualized generic practices, but work in relation to the socio-cultural contexts in which they are implemented…"
   "School level differences … must be taken into account when interpreting variations in program implementation and research results. Also, schools are dependent on larger societal influences that should not be ignored (e.g., inequitable resource allocation)... Thus, we promote a systems approach to reform that entails looking across multiple layers of the home, community, school, and society-at-large... Debates about instructional methods and considerations of student performance should be framed within the larger context of how literacy practices interrelate with issues of social practice, culture, and power across these levels…"
   "…not enough attention has focused on the role of classroom teachers. Variability in classroom instruction is to be expected, based on differences across teachers, curricula, and the wider school context. Considering there is substantial variation in teachers' knowledge, skills, and dispositions, it is unrealistic to assume that all teachers will be able to implement interventions in such a way that we can have confidence they are providing students with an adequate opportunity to learn. When children are struggling, school personnel should first consider the possibility that they are not receiving adequate instruction before it is assumed they are not responding because they have deficits of some kind... By looking in classrooms, we can tell a great deal about teachers' instruction, the activity, and the ways teachers and students interact. On-going analyses of general education classrooms should be an essential component of RTI models... However, we must ensure such examinations focus on classroom cultures and connect what occurs in the classroom with influences across the educational system."

Evidence-Based Practice

The international Council for Exceptional Children has recently prepared a policy statement on evidence-based practice (Council for Exceptional Children, 2007). Evidence-based practice is central to the current movement toward accountable outcomes. The CEC statement raises important questions about this concept. The quotes below identify some of CEC's central concerns:

> "On the topic of evidence-based practice, there is one point of agreement: The law says teachers must use evidence-based teaching practices (EBPs) to ensure their students receive the highest quality instruction. From there the discussion splinters into a myriad of issues, ranging from how much evidence is needed to give a practice credibility to acceptable research methods to the lack – or abundance – of research on students with special needs. Then there are the questions concerning EBPs in the classroom: how do teachers access EBPs, do teachers use the methods correctly, and how can teachers meld EBPs and the craft of teaching?"
>
> "EBP is not easily accessible to many teachers, particularly after they have completed their formal preparation program. Current sources for EBPs include a few books; professional development events such as CEC's convention and division and state/provincial conferences; educational journals such as *TEC, EC*, and CEC's division journals; and a small number of Web sites. But having the information available is only part of the solution. It needs to be in a format teachers can grasp quickly and easily, and that is rare. Teachers say they need information that tells what the practice is, the students for whom it is effective, how to implement the practice, and how the practice is rated (good, okay, don't go there)."
>
> "Another issue that arises with EBP is that of fidelity, or whether teachers correctly implement the strategy. Some fear that EBPs aren't effective if teachers don't use the procedures as they are designed. That can be difficult for teachers to do if their only contact with a strategy is by reading. Though training, which can be problematic for teachers to attend, gives teachers more insight into a strategy, some teachers say even that isn't enough. For teachers to use EBPs with fidelity, they need to have the support of an expert in the strategy as they implement it in their classes."

Implications

In its search for effective practices and research-based models for special education, the Student Support Services Review Committee will need to take account of the changing demographics of our Saskatchewan schools and the challenges of meeting these diverse needs, particularly in relation to Aboriginal perspectives. Likewise, the Committee will be challenged to address the issues associated with supporting schools and teachers in the complex task of implanting changes in their practice. Careful attention, along with supporting resources, will need to be deployed to the unique contexts in which change is envisaged. In particular, the community development process will be of foundational importance. Likewise, a vigorous program of professional development and supports will be essential for classroom teachers and other professionals.

FINDINGS OF THE LITERATURE REVIEW

What is the current status of our knowledge and emerging trends pertaining to program and service delivery models for students with special needs?

The Student Support Services Review Committee has been asked to "examine current research pertaining to program and service delivery models for students with special needs". Within this mandate, the committee asked that the literature review address emerging trends in special education and to identify directions for the next 5-10 years. By far the most prominent direction in the field of special education today has been the inter-related concepts of *Response-to-Intervention (RTI), Evidence-based practices (EBP), and 3-Tier Models (3TM).*

In the USA, the President's Commission on Excellence in Special Education (2002) plotted this strong direction when it made the following three recommendations:

1. Focus on results—not on process
2. Embrace a model of prevention, not a model of failure
3. Consider children with disabilities as general education children first.

In the subsequent re-authorization of the US Individuals with Disabilities Education Act (IDEA, 2004) this direction was given substance in the endorsement of the RTI model. Since 2004, the volume of research and professional publication related to RTI has mushroomed.

The National Research Center on Learning Disabilities (NRCLD, 2006) defines RTI as:"*…an assessment and intervention process for systematically monitoring student progress and making decisions about the need for instructional modifications or increasingly intensified services using progress monitoring data.*"

RTI is an integrated approach to service delivery that encompasses general, remedial and special education through a multi-tiered service delivery model. It utilizes a problem-solving framework to identify and address academic and behavioral difficulties for all students using scientific, research-based instruction (EBP). The National Association of State Directors of Special Education (NASDSE/CASE, 2005) describes RTI as the practice of: (a) providing high-quality instruction/intervention matched to all students needs, (b) using learning rate over time and level of performance to (c) make important educational decisions to guide instruction.

RTI practices are proactive, incorporating both prevention and intervention and are applicable to all levels from early childhood through high school. RTI is intended to reduce the incidence of "instructional casualties" by ensuring that students are provided high quality instruction with fidelity. By using RTI, school divisions can provide interventions to students as soon as a need arises. This is very different, for example, from the methods associated with the aptitude-achievement discrepancy models traditionally utilized for Learning Disabilities identification, which have been criticized as a "wait to fail" approach.

The RTI model is proposed as valuable for the schools because of its potential in identifying students with LD and preventing academic failure among all students. RTI provides another method of assessing underachievement. Students who are not achieving as one might expect when they are

given high quality instruction might have a learning disability. Students need and benefit from a close match of their current skills and abilities with the instructional and curricular choices provided within the classroom. When a mismatch occurs, student learning and outcomes are lowered. For some students, regular classroom instruction is appropriate and meets their needs. Students who are floundering can be identified and provided appropriate instruction, increasing the likelihood that they can be successful in their class. Identifying students who are not achieving at the same level and rate as their peers and providing appropriate interventions are two features of RTI.

Services and supports are organized in multiple tiers of increasingly intense student interventions. If student progress is unsatisfactory, then a more intense level of the intervention is considered. These tiers of interventions are often described from a public health model of primary, secondary, and tertiary interventions. The primary tier addresses prevention and the instructional needs of all students in a school. Students who need a stronger intervention are provided a secondary level intensity of service and support. The third tier is for those students needing the most intense of all available interventions. While levels-of-intensity models are typically formulated on three tiers, it is not unusual to see additional tiers described (e.g., Klingner & Edwards, 2006).

Mellard (2004) has described the core features of RTI:

1. *High quality classroom instruction.* Students receive high quality instruction in their regular classroom setting. Before students are singled out for assistance, it is important to assure that the typical classroom instruction is of high quality. This can be assessed by comparing students' learning rates and achievement in different classrooms at the same grade level.

2. *Research-based instruction*. General education's classroom practices and the curriculum vary in their efficacy. Thus, ensuring that the practices and curriculum have demonstrated their validity is important. If not, one cannot be confident that students' limited gains are independent of the classroom experiences.

3. *Classroom performance*. General education instructors and staff assume an active role in students' assessment in the general education curriculum. This feature emphasizes the important role of the classroom staff in designing and completing student assessments rather than relying on externally developed tests (e.g., state or nationally developed tests).

4. *Universal screening*. School staff conducts universal screening of academics and behavior. This feature focuses on specific criteria for judging the learning and achievement of all students, not only in academics but also in related behaviors (e.g., class attendance, tardiness, truancy, suspensions, and disciplinary actions). Those criteria are applied in determining which students need closer monitoring or an intervention.

5. *Continuous progress monitoring*. In RTI models, one expects students' classroom progress to be monitored continuously. In this way, staff can readily identify those learners who are not meeting the benchmarks or other expected standards.

6. *Research-based interventions*. When students' screening results or progress monitoring results indicate a deficit, an appropriate instructional intervention is implemented. School staff is expected to implement specific, research-based interventions to address the student's

difficulties. These interventions might include a "double-dose" of the classroom instruction or a different instructional method. These interventions are not adaptations of the current curriculum or accommodations, because one would expect those procedures to be implemented already. These research-based interventions are 8 to 12 weeks in length and are designed to increase the intensity of the learner's instructional experience.

7. *Progress monitoring during interventions*. School staff use progress-monitoring data to determine intervention effectiveness and to make any modifications as needed. Carefully defined data are collected, perhaps daily, to provide a cumulative record of the learner's response to the intervention.

8. *Fidelity measures*. While the interventions are designed, implemented, and assessed for their learner effectiveness, fidelity measures are completed that focus on those individuals providing the instruction. The fidelity measure provides the information that the intervention was implemented as intended and with consistency. Staff members other than the classroom teacher have an important role in completing fidelity measures, which are usually an observational checklist of critical teaching behaviors.

Research into RTI and 3TM has begun to appear in the recent literature. In general, research has evaluated either universal and/or targeted group interventions (e.g., Fuchs, Mock, Morgan, & Young, 2003) or evaluated third level individualized intervention (Christ, Burns, & Ysseldyke, 2005). Research evaluating components of these tiers has been conducted with elementary students with reading problems (Daly, Martens, Hamler, Dool, & Eckert, 1999; Vaughn, Linan-Thompson, & Hickman, 2003). In addition, research has found that applying interventions of increasing intensity, as indicated by the needs of the student, is effective in identifying the most appropriate third level academic or social behavior interventions for children (Barnett, Daly, Jones, & Lentz, 2004). A social behavior model of RTI promises to be an extension and new application of the substantial research on behavioral interventions, functional behavior assessment, and early intervention (Sugai, Horner, Dunlap, Hieneman, Lewis, Nelson, et al., 2000; Vaughn et al., 2003).

It is important to note that despite the potential and increasing adoption of RTI, many practical issues and unanswered questions remain (e.g., NJCLD, 2005; Kame'enui, 2007). A current issue of *Reading Research Quarterly* provides an excellent survey of the issues associated with RTI in literacy learning (Fuchs, D., & Fuchs, L., 2006; Gersten & Dimino, 2006; Klingner & Edwards, 2006; McEneaney, Lose, & Schwartz, 2006).

Inclusion

What are the benefits and outcomes of educating students with special needs in inclusive settings?

Over the past two decades, research has identified the benefits of educating students with disabilities with their non-disabled peers. Recently, the focus of attention in the field has shifted toward how to develop quality programs that include students with disabilities (Cole, Waldron, & Majd, 2004). Table 1 (from Cole, 2006) highlights the positive evidence for educational, social, and economic benefits of quality inclusive programs.

Table 1: Benefits and outcomes of inclusion in educational, social/emotional and economic domains.

	Benefit	Outcomes	Source
Educational	Improved academic achievement for general education students	• Achievement increased in at least one academic area when inclusive practices were implemented.	Baker & Zigmond, 1995; Cole, Waldron, & Majd, 2004; Hunt, 2000; Saint-Laurent et al., 1998; Salend & Duhaney, 1999
	Improved academic achievement for students with disabilities	• Students earned higher grades and achieved higher scores on standardized tests. • Greater progress in reading and math when compared to students educated in resource settings.	Cole, Waldron, & Majd, 2004; Rea, McLaughlin, & Walther-Thomas, 2002; Waldron & McLeskey, 1998
	Improved behavior	• Higher level of engagement in school activities. • Sharp decline in discipline referrals after shift to inclusive practices for students with and without disabilities.	Kemp & Carter, 2005; Krank, Moon, & Render, 2002
	Increased educational attainment	• Higher high school completion rates and higher rates of college attendance.	Blackorby, Chorost, Garza & Guzman, 2003
Social and Emotional	More durable peer networks	• Students with disabilities in general education classes had larger network of friends.	Kennedy, Shukla, & Fryxell, 1997; Newton & Horner, 1993; Vaughn et al., 1998
	Improved social skills for students with disabilities	• Teacher ratings showed improved social skills. • Students do not demonstrate high levels of loneliness.	Tapasak & Walther-Thomas, 1999; Vaughn et al., 1998
	Improved social emotional growth of students without disabilities	• Improved self concept. • Reduced fear of human differences. • Increased tolerance. • Improved social emotional growth. • Improved personal conduct. • Positive outcomes for high school students who had interaction with students with disabilities.	Giangreco et al., 1993; Helmstetter, Peck & Giangreco, 1994; Peck, Donaldson, & Pezzoli, 1990; Staub, 1999
Economic	Increased employment rate and job skill level	• More time in general education programs resulted in better postsecondary outcomes.	Blackorby, Chorost, Garza, & Guzman, 2003; Wagner, Newman, Cameto, Garza, & Levine, 2005

However, there have been less favourable interpretations of the research literature on inclusion. Zigmond (2003) has provided an historical review of studies on the effects of inclusion. Her position is that no simple and straightforward answer is available to the question of where students with disabilities should receive their special education instruction. Mixed outcomes suggest that the efficacy research provides no compelling evidence for location as the critical factor in the academic or social progress of students with mild/moderate disabilities. While acknowledging that the research base of quality efficacy studies is insufficient, Zigmond concluded that placement decisions must continue to be made by determining whether a particular placement option will support the effective instructional practices that are required for a particular child to achieve his or her individual objectives and goals. She also stressed the importance of strengthening classrooms as places where effective individualized instruction takes place.

More recently, a review by Lindsay (2007) concluded that the weight of evidence does not provide a clear endorsement for the positive effects of inclusion. Just over 1300 reviewed studies on inclusion published between 2000 and 2005 addressed effectiveness, and the results from these studies were only marginally positive overall. Furthermore, the studies cover a range of ages and methods of inclusion, used a variety of methods, and produced evidence on a number of different outcome variables. Lindsay concluded that there is a lack of a firm research base for inclusive education to support either whether this is a preferable approach in terms of outcomes, or how inclusion should be implemented. He suggests an acceptance of the basic premise that children's needs should be addressed within an inclusive education system in the broadest sense, but views this as more than simply a question of mainstream vs. special school or that inclusion can only mean full-time education in a mainstream class.

A series of systematic literature reviews on inclusive education has been sponsored by the *Evidence for Policy and Practice Information and Co-ordinating Centre* (EPPI) at the University of London. These have been rigorous targeted reviews that address component research questions within the broad context of inclusive education. Full copies of these reviews can be retrieved from the EPPI website (http://eppi.ioe.ac.uk) and should be consulted to identify further details beyond the key findings reported in Appendix B. The target questions and essential findings from these reviews follows:

How can schools maximize participation of all students in their cultures, curricula, and communities? (Dyson, Howes, & Roberts, 2002)

- Some schools are characterized by an 'inclusive culture'.
- These schools make specialist provision in the regular classroom rather than by withdrawal, and use constructivist approaches to teaching and learning.
- Local and national policy can act to support or to undermine schools' inclusive values.

How effective are strategies for children with behavioural problems in elementary classrooms? (Evans, Harden, Thomas, & Benefield, 2003)

- Behavioural strategies have positive effects on reducing disruptive and off-task behaviour.
- Limited support for self-instruction techniques to monitor students' own behaviour.
- Cognitive-behavioural strategies for reducing aggression or improving social skills have immediate positive but no long-term effects.
- Changing seating arrangements from groups to rows had a positive impact on time on task.
- Teachers' issues for strategies were: simplicity and acceptability, consistency across the school, avoiding 'top-down' mandate; and consulting and listening to children.

Which instructional approaches are effective for children with special needs in regular classrooms? (Nind & Wearmouth, 2006; Nind, et al., 2004).

- There is some evidence of the effectiveness of co-operative learning, particularly in literacy, for guided enquiry and Circle of Friends.
- There is evidence of impact on both academic learning and community participation, children's views of their own competence, acceptance and self-worth.
- Teachers used the model of pupil as learner and made use of organizational support for peer-group interactive approaches, and they applied a holistic approach to skill development.

Do pupils learn and participate more effectively when support staff are present in classrooms? (Howes, Farrell, Kaplan, & Moss, 2003).

- Paid adult support may provide important attention and support to specific students, affecting individual but not class test scores.
- Paid support staff can sometimes thwart actual inclusion by working in relative isolation with the pupils they are supporting, and not helping their pupils, other pupils in the class and the classroom teacher to connect and engage together.
- Paid adult support staff play an important role as mediators, and this is a key element in promoting pupils' participation and learning.
- When support staff have and use a detailed, personal knowledge of the pupils they support, this has a positive impact.

The current literature review draws on the results of a major and current series of longitudinal studies conducted between 2000 and 2006 by the Office of Special Education Programs (OSEP) in the U.S. Department of Education. The Special Education Elementary Longitudinal Study (SEELS) documented the school experiences of a national sample of students as they moved from elementary to middle school and from middle to high school, offering evidence on the characteristics, experiences, and outcomes of elementary and middle school students with disabilities (Blackorby, Knokey, Wagner, Levine, & Schill, 2007). SEELS has collected data on 11,000 students three times over 5 years on student and family characteristics; students' school programs, instruction, and accommodations; and a broad set of student outcome measures, including academic progress and social development. These data also provide a unique opportunity to focus on the factors related to growth in outcomes over time, with a particular focus on those that are amenable to intervention (e.g., placement, instructional groups, curricular modifications).

The findings from SEELS studies powerfully demonstrate the complexity of the dynamic, inter-related factors that help shape student learning and behavior. Students' personal strengths and challenges and their family profiles exercise powerful influences over their outcomes. Yet schools are important partners in shaping both academic performance and behavior; decisions made about instructional settings and practices and about accommodations and learning supports make a difference in what students learn and how they behave and can help alter for the better students' trajectories into the future. The evidence from these studies makes it clear that there is no one pattern of decisions that benefits all students equally, underscoring the critical importance of individualized programs to meet individual needs.

The large volume of results from the SEELS research are worthy of detailed study, but are beyond the scope of this review. Some of the findings reported by Blackorby et al., (2007) pertaining most directly to this review are listed below.

What are important factors related to academic and social adjustment outcomes of students with disabilities, and how do these change over time?

- Students' academic performances in reading and mathematics generally advanced over time.
- The performance of students with disabilities remained well below that of peers in the general population.
- Parental factors of higher income, higher expectations, and higher levels of support at home and at school generally relate to more positive academic outcomes. Income differences are

particularly related to reading measures, whereas variations in parents' expectations for education attainment have the most consistent positive relationships with grades.

- Analyses of relationships between academic outcomes and social skills and classroom behaviors show consistently positive relationships with grades, particularly with regard to classroom behaviors. For students overall, those who frequently followed directions and completed homework on time had higher grades.
- Students with disabilities who took more of their academic classes in general education classrooms had higher reading and mathematics scores and read more fluently than students who took fewer of their academic classes in such settings.
- Participating in the general education curriculum without modification relates positively to reading measures, and to higher growth in mathematics abilities over time. More active engagement in general instructional activities in the classroom relates positively to students' reading comprehension abilities and to growth in grades over time.
- Adaptations such as more time for test-taking, alternative tests, modified grading standards, help from a reader or interpreter all are associated with poorer reading performance on one measure relative to students with disabilities who did not receive these accommodations or supports.

Summary and Implications

The research evidence on inclusive schools is complex and multi-facted. Current evidence supports the conclusion that we have moved beyond the issue of placement (i.e., regular classroom vs. separate setting). Rather, the focus has shifted to the importance of strengthening schools and classrooms as places where effective instruction and supports take place. While substantial evidence from research syntheses has documented the positive outcomes of inclusive schools, much remains to be learned about the array of policies and practices that lead to positive outcomes for all learners in inclusive schools. Considerable investment of effort and resources will be needed for schools and communities as they undertake the struggle to build schools that welcome and support learning and learners in their diversity.

Evidence-Based Practices

What is the current status of our knowledge about evidence-based practices and related student outcomes in the field of special education?

There has been growing interest and attention devoted to evidence-based practices in special education (Odom et al., 2005). The National dissemination Centre for Children with Disabilities (http://www.nichcy.org/) provides research-based information on effective practices for children with disabilities. The U.S. Department of Education Institute of Education Sciences has developed the What Works Clearinghouse (http://ies.ed.gov/ncee/wwc/). The What Works Clearinghouse collects, screens, and identifies studies of effectiveness of educational interventions (programs, products, practices, and policies). These and other sources provide an ever-changing collection of evaluations of the effectiveness of educational practices (see Appendix A).

This section of the literature review examines the research related to current evidence-based practices in special education. The emphasis has been placed upon practices that relate to and support students in inclusive settings.

Co-Teaching

In response to recent trends and legislation promoting inclusive instruction and access to the general education curriculum, many schools have implemented co-teaching (Cook & Friend, 1995). Intended to provide support for increasing the inclusion of students with disabilities, co-teaching usually consists of one general education teacher paired with one special education teacher in an inclusive classroom of general education and special education students (e.g., Mastropieri & Scruggs, 2006).

A review by Welch, Brownell, and Sheridan (1999) included 40 articles on team teaching and school-based problem-solving teams. They concluded that:

- Teachers report positive attitudes toward various forms of co-teaching.
- There was limited knowledge about student outcomes, and a lack of empirical evidence supporting co-teaching.

Weiss and Brigham (2000) reviewed 23 quantitative and qualitative studies of co-teaching, published between 1987 and 1999, including investigations of both elementary and secondary settings. They reported that:

- Considerable variability was apparent in co-taught classes.
- The special education teacher typically was responsible for modifying instruction, behavior management, and monitoring student progress
- The general education teacher was responsible for the content of instruction.
- The standard of individualized instruction may not be met for students with disabilities.
- Important components of successful co-teaching include the general education teacher's attitude, sufficient planning time, voluntary participation, mutual respect, administrative support, and a shared philosophy of instruction and behavior management.

Scruggs, Mastropieri, and McDuffie (2007) conducted a meta-analysis of 32 qualitative investigations of co-teaching in inclusive classrooms. Several general conclusions were drawn from the results:

- Administrators, teachers, and students perceive the model of co-teaching to be generally beneficial, to general education and to (at least some) special education students in both social and academic domains, and to the professional development of teachers.
- Teachers have identified a number of conditions needed for co-teaching to succeed, including sufficient planning time, compatibility of co-teachers, training, and appropriate student skill level. Many of these concerns were linked to the more general issue of administrative support.
- The predominant co-teaching model reported in these investigations is "one teach, one assist," with the special education teacher often playing a subordinate role determined, in part, by content knowledge, teacher "turf," and the greater numbers of general education students in the co-taught classroom.
- General education teachers typically employ whole class, teacher-led instruction with little individualization, whereas special education teachers function largely as assistants in support

of special education students and other students in need, within the existing classroom context.

Paraprofessionals

As more students with disabilities receive their education in general education classrooms, one of the most common service delivery responses has been to hire and assign more paraprofessionals (Giangreco, Edelman, Broer, & Doyle, 2001). This has contributed to the burgeoning numbers of paraprofessional in schools and corresponding costs. Positive outcomes of paraprofessional support have been documented by Howes et al. (2003). Simultaneously, the wisdom of proliferating a service delivery model that is highly dependent on paraprofessionals for the successful inclusion of students with disabilities has been questioned conceptually (Giangreco et al., 2001; Giangreco, Halvorsen, Doyle, & Broer, 2004) and a variety of concerns have been identified in the research literature (Downing, Ryndak, & Clark, 2000; Giangreco, et al, 2001; Giangreco, Edelman, Luiselli, & MacFarland, 1997; Marks, Shrader & Levine, 1999; Wallace, Shin, Bartholomay, & Stahl, 2001).

These concerns include:

- As the least qualified group of instructional staff members, paraprofessionals sometimes have primary or extensive responsibilities for teaching students with the most complex learning characteristics.
- Special education paraprofessionals remain untrained or under-trained for their roles, which at times are questionable (e.g., making curricular decisions, planning lessons, designing adaptations, serving as a liaison with families).
- Similarly, many teachers and special educators remain untrained or under-trained to direct and supervise paraprofessionals; some remain hesitant to undertake this role.
- Inappropriate utilization or excessive proximity of paraprofessionals has been linked to inadvertent detrimental effects (e.g., dependence, interference with peer interactions, insular relationships, stigmatization, provocation of behavior problems).
- Assignment of individual paraprofessionals has been linked to lower levels of teacher involvement with students who have disabilities, a key factor for successful inclusion in general education classrooms.
- Shifting responsibilities to paraprofessionals may temporarily relieve certain types of pressures on general and special educators that delay attention to needed changes in schools such as: (a) improving classroom teacher ownership of students with disabilities; (b) addressing special educator working conditions (e.g., caseload, paperwork); or (c) building capacity within general education to design curriculum and instruction for mixed-ability groups that include students with disabilities.

Self-Determination and Transitions

In 2001, the U.S. Department of Education funded the National Longitudinal Transition Study-2 (NLTS2) to provide a national picture of the characteristics, experiences, and outcomes of secondary school students with disabilities as they transition to young adulthood (Wagner, Newman, Cameto, Levine, & Garza, 2006). NLTS2 includes a sample of more than 11,000 youth who were ages 13 through 16 and receiving special education services in seventh grade or above in the 2000-2001 school year. Data are being collected in five waves over a 9-year period and include information

from parents, youth, school staff, and school records in such key aspects of youths' experiences as academic achievement, school completion, and postsecondary education and employment. The large volume of results from the NLTS2 research are worthy of detailed study, but are beyond the scope of this review. Some of the findings reported by Wagner et al., (2006) pertaining most directly to this review are listed below.

Regarding high school leaving status by 2003:

- 28% of youth with disabilities who had been in secondary school in the 2000–01 school year were no longer in high school. 72% had completed high school by graduating or receiving some kind of certificate of completion; 28% of school leavers had not finished high school.
- The most common reasons reported for dropping out of school are dislike of school (36%) and poor relationships with teachers and students (17%).
- The majority of school leavers with disabilities have school completion rates of 72%-79%.
- The completion rate for youth with emotional disturbances (56%) is lower than the rate for all other categories, youth with multiple disabilities or mental retardation.
- Youth with disabilities from households with annual incomes of more than $50,000 are significantly more likely to complete high school than those from households with incomes of $25,000 or less (82% vs. 64%).

Regarding engagement in school, work, or work preparation, up to 2 years after leaving high school:

- almost 8 in 10 out-of-school youth with disabilities have been engaged in postsecondary education, paid employment, or training to prepare them for employment.
- 4% have attended postsecondary school without working or participating in job training.

Regarding postsecondary education participation:

- About 3 in 10 out-of-school youth with disabilities have been enrolled in postsecondary schooling since leaving high school, about half the rate of the general population.
- One-fifth of youth with disabilities have enrolled in 2-year or community colleges since high school, and 10% were attending such schools at the time of the interview, a participation rate similar to that of youth in the general population (12%).
- 9% of youth with disabilities have attended a 4-year college, with 6% doing so when interviewed. Youth in the general population are about four and one-half times as likely as youth with disabilities to be currently taking courses in 4-year colleges (28%).
- About 5% of youth with disabilities attend postsecondary vocational, business, or technical schools within 2 years of leaving high school.

Regarding employment after high school:

- About 7 in 10 out-of-school youth with disabilities have worked for pay at some time since leaving high school, and more than 4 in 10 were employed at the time of the Wave 2 interview. This rate is below the 63% employment rate in the general population.
- Reliance on typically low-paying personal-care jobs (e.g., child care), has decreased markedly among girls with disabilities; 6% of girls worked in such jobs in Wave 2. At the same time, there has been an increase in jobs in the trades (e.g., carpentry, plumbing) among boys; 28% of boys hold these kinds of jobs up to 2 years after leaving high school.

- 84% of working out-of-school youth report having employers who are unaware of their disabilities. Among those who report their employers are aware of their disabilities, 25% are receiving workplace accommodations for them (4% of working youth with disabilities).
- Most working youth with disabilities have positive feelings about their employment experiences. Among youth employed more than 6 months, about 60% report being promoted, taking on more responsibility, or receiving a pay increase.

Regarding emerging independence:

- Up to 2 years after high school, about three-quarters of youth with disabilities still are living with their parents, a similar rate to that of the general population of youth.
- About 12% of out-of-school youth are living with a spouse or roommate outside of their parents' home; two-thirds of youth in this living arrangement are reported to have annual incomes of $5,000 or less.
- Personal financial management tools are being used by more youth with disabilities; about one-third have personal chequing accounts, and almost one in five have a credit card or charge account in their own name, significantly more youth than 2 years earlier.

Regarding results associated with dropping out of school:

- Dropouts are significantly less likely to be engaged in school, work, or preparation for work shortly after high school than are school completers; 69% vs. of dropouts have been engaged in these activities, compared with 86% of school completers.
- The form of postschool engagement undertaken by dropouts is unlikely to include postsecondary education.
- Dropouts are more likely to support independent households and children than are school completers.
- Dropouts are less likely than school completers to have a driver's license (51% vs. 73%) or a chequing account (16% vs. 39%) and to be registered to vote (48% vs. 69%).

Self-determination, the combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior, has become an important part of special education and related services for people with disabilities. Algozzine, Browder, Karvonen, Test, and Wood (2001) conducted a comprehensive literature review and meta-analysis of the literature on the outcomes of self-determination interventions. For the 51 studies included in the meta-analysis, the median effect size reflected a moderate gain as a result of self-determination interventions.

- The major intervention themes found in the self-determination literature are self-advocacy and choice making.
- Self-determination is being taught using a variety of methods. Instructional formats include large group instruction, individual conferences, and one-to-one behavioral interventions with systematic prompting and feedback as the person practices the skill. Although many of these studies are researcher implemented, some involved interventions by the classroom teacher or other direct service staff, and most were conducted in school or community settings.
- Almost half of the studies included observations of the participants using self-determination skills in life situations.
- Although excluded from this study for methodological reasons, self-management interventions also have demonstrated effectiveness in promoting self-determination (Hughes et al., 1991).

Research has supported the view that self-determination in high school is related to positive transition outcomes. Wehmeyer and Schwartz (1997) conducted a study in which they followed up on a group of students who had graduated from high school. Nearly one year after graduation, findings showed a consistent trend characterized by self-determined youth doing better than their peers:

- a higher likelihood of being employed and earning more per hour.
- more likely to have expressed a preference to live outside the family home, have a savings or chequing account, and be employed for pay.

Parent/Community Involvement

Henderson and Berla (1994) and Henderson and Mapp (2002) have conducted frequently cited research syntheses on the effects of parent and community involvement. Based their review on 51 studies published between 1995 and 2002, Henderson and Mapp concluded that:

> The evidence is consistent, positive, and convincing: many forms of family and community involvement influence student achievement at all ages. When programs and initiatives focus on building respectful and trusting relationships among school staff, families, and community members, they are more effective in creating and sustaining connections that support student achievement.

These research syntheses have shown that schools that work well with families, where parents are involved:

- Outperform identical programs without parent and family involvement.
- Have improved teacher morale and higher ratings of teachers by parents.
- Have more support from families and a better reputation in the community.

The most accurate predictor of a student's achievement in school is not income or social status, but the extent to which that student's family is able to:

- Create a home environment that encourages learning.
- Communicate high, reasonable, expectations for children's achievement and future careers.
- Become involved in children's education at school and in the community.

When parents are involved, students:

- Achieve more, regardless of socio-economic status, ethnic/racial background, or the parents' education level.
- Have higher grades and test scores, have better attendance, and complete homework more consistently.
- Exhibit more positive attitudes as well as decreased alcohol use, violence, and antisocial behavior.
- Parental involvement early in the educational process results in more powerful effects.
- Benefits are not confined to the elementary years; there are significant gains at all ages and grade levels.

Different types of parent/family involvement produce different gains:

- When parents collaborate with the teacher, educators hold higher expectations of students and higher opinions of the parents; children from diverse cultural backgrounds tend to do better because parents and professionals are bridging the gap between the culture at home and the learning institution.
- When parents are involved in full partnerships (i.e., decision making), student achievement for disadvantaged children not only improves, it can reach levels that are standard for middle-class children; the children who are farthest behind make the greatest gains.

The importance of family involvement and expectations for students with disabilities is supported by results of NLTS2 analyses (Newman, 2004). Parental support of their children's education is associated with consistent differences in several achievement domains, independent of disability, functioning, or other differences among youth.

- Youth whose families are more involved in their schools are less far behind grade level in reading, tend to receive better grades, and have higher rates of involvement in organized groups (many of which are school based) and with individual friendships than youth with less family involvement at school.
- In the independence domain, youth whose families are more involved in their schools are more likely to have had regular paid jobs in the preceding year. In contrast, family support for education at home is not related to many outcomes, controlling for other differences among youth. One exception:
- Greater home support for education is negatively associated with grades, possibly because parents are more likely to provide homework help to students doing poorly in school.

Expectations that parents hold for the futures of their children with disabilities in part reflect parents' experience with and perceptions of the ways those disabilities are thought to limit activities and accomplishments. However, NLTS2 findings suggest that family expectations for the future also help shape the achievements of youth with disabilities, irrespective of the nature of the youth's disabilities and their levels of functioning, particularly with regard to academic engagement and achievement. Other things being equal, youth with disabilities whose parents expect them to go on to postsecondary education are more likely to:

- Have more positive engagement and achievements while in high school than youth whose parents do not share that optimism for the future.
- Have positive classroom engagement behaviors in all settings and receive better grades than youth who are not expected to continue their education.
- Be closer to grade level in their tested reading and math abilities than youth who are not expected to further their education after high school.
- Avoid disciplinary actions and affiliate with organized groups, many of which may be sponsored by or meet at school.

Collaboration and Teams

Collaboration is no longer just an ingredient in school life but an essential feature (Villa & Thousand, 2005). It is central to progressive educational reform efforts (Mohr & Dichter, 2001), because "authentic learning requires an authentic learning community" (p. 747). Caron and McLaughlin (2002) have identified the presence of a "collaborative culture" as an indicator of an excellent school. As the number of special needs students receiving their education in inclusive

settings increases, there have been higher expectations for collaboration among special educators, general educators, related service personnel, and paraprofessionals. Research has shown that the skills needed for successful collaboration can be learned (Cramer, 2006) and studies of collaborating teachers have found that they generally evaluate their collaborative skills positively and regard their relationships with their teaching partners as satisfying (e.g., Idol, 2006; Salend & Johansen, 1997).

There have been a growing number of research studies published on this topic. Most of this literature about collaboration has focused on the types of collaborative relationships, skills and roles needed for collaboration, and barriers to successful collaboration, rather than on outcomes for students (Boudah, Schumacher, & Deshler, 1997). Burns and Symington (2002) conducted a meta-analysis of the effects of prereferral intervention teams (PIT) on student and systemic outcomes. Outcome measures in the student group included observations of time on task, student task completion, scores on behavior rating scales, and observations of target behavior. Systemic variables included referrals to special education, new placements in special education, percentage of referrals that are diagnosed with a disability, number of students retained in a grade, and an increase in consultative or counseling activity by school psychologists. Of 72 articles identified in the search, only 9 met criteria for inclusion in the meta-analysis. Based on criteria for magnitude of effect, all but two of the computed coefficients fell within the *large* category and suggested that the PIT approach has a strong effect on desired outcomes. Although the results suggest effectiveness, and data exist to support the cost effectiveness of PIT models, recommendations for practice could not be made from this meta-analysis due to the small number of studies available to compute effect sizes.

Two leading journals have published special issues devoted to collaboration and teamwork. A special issue of the *Journal of Educational and Psychological Consultation* in 2002 examined collaboration between general and special educators as documented in three projects that studied exemplary schools in a research program called Beacons of Excellence. The purpose of this program was to identify and study schools achieving exemplary results for all students. Caron and McLaughlin (2002), Morocco and Aguilar (2002), and Wallace, Anderson, and Bartholomay (2002) describe 10 schools, at the elementary, middle, and high school level that are succeeding with students in special education and general education. The following common themes emerged from these studies:

- Collaboration between general and special education emerged as a critical component. Across schools, the form of collaboration varied. The majority used special education/general education coteaching, although even coteaching took different forms across schools.
- A strong sense of shared responsibility for students across all staff. This sense of shared responsibility and community may give rise to successful coteaching and collaboration, as well as exemplary outcomes in these schools.
- An inclusive school organization, characterized by collective responsibility for *all* students and peer support among teachers. Shared leadership, another manifestation of a collaborative ethic, was present in most of the schools studied.
- Administrative support, involving leadership in establishing clear and cohesive expectations for all students, and supporting close ties between general and special education. When school structures and time constraints made communication difficult, principals actively worked to support collaboration by finding ways to provide teachers with opportunities to meet (e.g., provision of substitute teachers).
- Informal communication was important to their success. While structured time for interaction

between special and general education staff was important, e-mail, voice mail, unscheduled meetings, and brief information exchanges all played a role in assuring that teachers were kept informed of student issues and progress.
- The fluid nature of schools and the ongoing need to adapt to changing conditions was evident from the case studies. Several of the schools here faced significant challenges as student demographics changed, principals exited, or pressures for improved test results increased.

A special issue in 2006 of the journal *Remedial and Special Education* addressed the teamwork aspect of collaboration (Bahr & Kovaleski, 2006). Since Chalfant, Pysh, and Moultrie (1979) initiated the problem-solving pre-referral teacher assistance team model, there has been widespread adoption of variations of this process, in which teams are established to provide support to teachers who face curricular, instructional, and student management challenges (Truscott, Cohen, Sama, Sanborn, & Frank, 2005). Terms appearing in the literature include teacher assistance teams (Chalfant & Pysh, 1989), mainstream assistance teams (Fuchs, Fuchs, Bahr, Fernstrom, & Stecker, 1990), instructional consultation teams (Rosenfield & Gravois, 1996), instructional support teams (Kovaleski, Gickling, Morrow, & Swank, 1999), and intervention assistance teams (Whitten & Dieker, 1995). The prevalence and durability of problem-solving teams in the schools reflect an underlying need among teachers, specialists, and administrators. As teachers strive to implement evidence-based practices, they need assistance and support. These teams now need to focus not merely on preventing referral to special education, but on supporting teachers in their use of evidence-based practices to foster all students' learning.

Bahr, Walker, Hampton, Buddle, et al. (2006) examined the effects of providing teams with training on the creative problem solving process. When compared to non-trained teams, participants from the trained teams showed:
- Positive outcomes on the length of the initial team meeting, team effectiveness, overall adequacy of follow-up, adequacy of time for follow-up, and use of quality indices.
- The use of more quality indices correlates positively with better intervention outcomes (Flugum & Reschly, 1994).
- Trained teams completed the initial meeting in the targeted time of 40 to 50 minutes, enabling these teams to work efficiently.

The study reported by Gravois and Rosenfield (2006) investigated the impact of implementing Instructional Consultation (IC) Teams on the disproportionate referral and placement of minority students into special education. Data were collected on referral and placement patterns of minority students in 13 IC Teams schools and 9 comparison schools. After 2 years of implementation,
- There were significant decreases in the risk of minority students in IC Team project schools being referred to and placed in special education when compared to nonproject schools.
- The odds of minority students' being referred and placed in special education decreased by almost half in IC Team schools.
- Similar decreases in IC Team schools were noted when analyzing the composition indexes.
- The findings were considered indicative of the effect that quality classroom instructional practices have on the referral and placement of minority students for special education services.

Teams and RTI

A review of models of RTI readily reveals that collaborative teams are an essential component of an effective RTI process. RTI requires communication and cooperation among regular education, special education, and special programs. Schools may find that more than one team best meets their needs. For example, in tier 1, initial planning may be best accomplished through grade-level professional learning communities. At this level, a group of teachers may find that fewer than 80% of their students are meeting expectations and decide to investigate ways to strengthen their curricula or instruction. If the core program is meeting the needs of 80% or more of the students, the teachers may decide to differentiate instruction for those students performing below expectancies. Another level of team (typically the Teacher Assistance Team) might meet to plan interventions for students who are not making expected progress. On-going data gathering and analysis occurs at group and individual level.

The best way to plan and support Tier II, individualized interventions, is through a multi-disciplinary problem-solving team. To implement RTI effectively, schools must be familiar with: a structured format for problem-solving, effective research-based interventions to address a range of academic and behavioral concerns, methods for student progress-monitoring and data analysis, and other specialized skills and knowledge. In any school, the most efficient way to gain access to these competencies is to assemble a problem-solving team made up of teachers, support staff, and administrators. A basic assumption of all RTI models is that RTI teams will serve as the vehicle to assist teachers in putting together and monitoring individualized student intervention plans. Recruiting and training such teams should be a primary objective for any school division undertaking RTI.

In an RTI context, problem solving is a data-based decision making process that is used to identify needed interventions for students in Tiers I, II and III. Decisions are made by teams comprised of individuals with the expertise to make educational decisions to help students succeed in school. In general, the composition of a decision-making team changes by adding additional specialists' expertise as students move from tier to tier. Decision-making teams should always include the student's general education teacher(s) and parents. Decision making team participants may include: the principal, academic specialists (e.g., science or literacy consultants), special education teachers, school psychologists, speech and language pathologists and other educational staff associates, additional general education staff, paraeducators, parents and the classroom teacher(s) of the student.

To facilitate the problem-solving process at any of tiers I, II, or III, the information collected during assessment is used to inform instructional decision-making. In making decisions, teams commonly use the following approach:

- Define the problem – When a concern is raised, the first step is to review the concern and attempt to identify the problem. The decision-making team should first review existing student data to determine specific problems.
- Analyze the cause – Once the problem is defined, the decision making team needs to develop a hypothesis as to why the problem is occurring and continuing. This involves analyzing those variables that can be altered through instruction in order to find an instructional solution. This includes questions of fidelity, missing skills, motivational factors, or lack of exposure to the general curriculum. In addition to the cause of the problem, the team needs to

consider the student's rate of learning. In doing this, the team reviews the student's learning progress in the areas identified by the decision making team.

- Develop a plan – Once the problem has been analyzed, the team identifies interventions that will meet the student's needs. The team does this by developing a plan that includes: an implementation timeframe (e.g., 4 weeks, 6 weeks, or 8 weeks); the frequency of the interventions (how often the intervention will be provided and for how many minutes per week); who will provide the intervention (e.g. classroom teacher, Title I teacher, etc); and a timeframe to evaluate the effectiveness of the intervention. The student's plan should outline the goal for progress. The team plots an "aim-line" (graphic representation) depicting the desired rate of progress a student needs to reach the goal from the current baseline.
- Implement the plan – To ensure intervention fidelity, qualified staff must deliver the interventions according to the prescribed process and prescribed timeframe. Schools should document their delivery of the interventions using multiple sources (e.g. observation notes, lesson plans and grade books, student work reflecting instructional elements and graphs of student progress).
- Evaluate the plan – In order to determine if the intervention is working for a student, the team must collect data through progress monitoring. The frequency of progress monitoring depends on the tier, but in all cases the process is similar. A student's current performance and progress is compared to their projected "aim-line." If performance falls significantly below the aim-line over three or four consecutive monitoring periods, the decision making team should revisit the intervention plan to make appropriate modifications or revisions.

Effective Instruction

The research literature on effective instruction is massive and ever changing. The search for evidence-based instructional practices has given rise to considerable debate, and begs such questions as "Effective for which students, at what ages, under what conditions?" (Odom et al., 2005). Nevertheless, much has been learned over the past couple of decades regarding broadly applicable effective instructional practices. Numerous research syntheses have contributed to this knowledge. More recently, the internet has seen the arrival of organizations devoted to the synthesis and dissemination of information on evidence-based instructional practices (see Appendix A).

It is beyond the scope of this review to undertake a comprehensive report of evidence-based instructional practices. However, this section includes a summary of the outcomes of selected current research syntheses.

The National Reading Panel (NRP; 2000) has provided a large scale, highly influential meta-analysis of research on the teaching and learning of reading. Their main findings were:

- Teaching children to manipulate phonemes in words was highly effective under a variety of teaching conditions with a variety of learners across a range of grade and age levels.
- Systematic phonics instruction produces significant benefits for students in kindergarten through 6th grade and for children having difficulty learning to read.
- Guided repeated oral reading procedures that included guidance from teachers, peers, or parents had a significant and positive impact on word recognition, fluency, and comprehension across a range of grade levels.

- No positive relationship found between programs and instruction involving large amounts of independent reading and improvements in reading achievement, including fluency.
- Vocabulary instruction does lead to gains in comprehension, but methods must be appropriate to the age and ability of the reader. The use of computers in vocabulary instruction was found to be more effective than some traditional methods in a few studies.
- Teaching a combination of reading comprehension techniques is the most effective. When students use them appropriately, they assist in recall, question answering, question generation, and summarization of texts. When used in combination, these techniques can improve results in standardized comprehension tests.

Mastropieri and Scruggs (1997) conducted an extensive review of the research literature published between 1976 and 1996 on reading comprehension instruction for students with learning disabilities. Results suggest that the best overall reading program combines training in basic skills and reading fluency with training in text analysis, self-questioning, and comprehension monitoring and in making appropriate attributions. Several overall conclusions were drawn:

- Fluency building and vocabulary acquisition are necessary but not sufficient components of reading comprehension training.
- Adjunct aids such as highlighting, underlining, embedded questions, semantic feature relationship charts, study guides, and mnemonic illustrations improve comprehension, but only for the particular passages in which they are included, if explicit generalization training is not provided.
- Teacher questioning and self-questioning training-in which learners actively question the purposes and structure of text, activate prior knowledge, identify and attend to the important points, and self-question their comprehension as they read are likely to improve reading comprehension, provided that students have preskills and that text is readable.

Regarding reading instruction for older students with reading difficulties, Scammacca et al. (2007) conducted a meta-analysis of recent research on reading instruction for adolescent struggling readers. The findings suggest that researchers as well as teachers can influence reading outcomes of older students with reading difficulties:

- Adolescence is not too late to intervene, and older students who participate in interventions can benefit.
- Older students with reading difficulties benefit from interventions focused both at the word level and at the text level.
- Teaching comprehension strategies to older students with reading difficulties is associated with an overall effect equivalent to a gain of about one standard deviation.
- Older students with reading difficulties benefit from improved knowledge of word meanings and concepts.
- Word-study interventions for older students with reading difficulties are associated with small-to-moderate gains, even on standardized outcome measures. For older students struggling at the word level, word-study intervention is an appropriate response.
- Interventions provided by both researchers and teachers are associated with positive effects.
- For older readers, average gains in reading comprehension are smaller than gains in other reading and reading-related areas.

In the area of mathematics, Baker, Gersten, and Lee (2002) conducted a meta-analysis of all studies

published from 1971 to 1999 that included specific instructional intervention strategies to improve the mathematics performance of low-achieving school-age students. They report four findings considered to be components of best practice:

- Providing teachers and students with specific information on how each student is performing seems to enhance mathematics achievement consistently.
- Using peers as tutors or guides enhances achievement. The use of peers to provide feedback and support improves low achievers' computational abilities and holds promise as a means to enhance problem-solving abilities.
- Providing clear, specific feedback to parents of low achievers on their children's successes in mathematics seems to have the potential to enhance achievement, although perhaps only modestly.
- Principles of direct or explicit instruction can be useful in teaching mathematical concepts and procedures. This includes both the use of generic problem-solving strategies and more classic direct instruction approaches where students are taught one way to solve a problem and are provided with extensive practice.

Summary and Implications

This section of the literature review addressed the question: *What is the current status of our knowledge about evidence-based practices and related student outcomes in the field of special education?* A survey of the research literature reveals that there is a large and complex body of findings related to evidence-based practices. Over decades, many research syntheses have been conducted in efforts to afford coherence to this diversity of evidence. More recently, burgeoning interest in identifying evidence-based practices has given rise to more rigorous efforts to conduct research syntheses to guide practice. Most recently, organizations devoted to conducting quality research syntheses and disseminating related practice guidelines have become established, with the products of their work published on the internet. The challenge ahead is to continue to refine our knowledge and implementation of evidence-based practices. In particular, rationalizing and evaluating these practices in the context of service delivery models, such as current RTI models and 3-tier systems, is essential.

THE WAY FORWARD

This literature review has been guided by the following research question: *What is the current status of our knowledge about effective practices and related student outcomes in the field of special education?*

What is very clear from the current professional literature is that by far the most prominent direction in the field of special education today has been the inter-related concepts of *Response-to-Intervention, Evidence-Based Practices, and 3-Tier Models*. These practices focus on sound instructional principles, such as effectively teaching all children, intervening early, using research-based interventions and instruction, monitoring student progress, and using assessment data to inform instructional decision-making (Mellard, 2004). Although RTI is a very active research topic, further investigation is needed to understand the unique contributions of each of these elements, and how they combine to function as a coherent system of supports for learning.

How does RTI work and what kind of changes would it require in schools?

RTI is an initiative that takes place in the general education environment. RTI calls for early identification of learning and behavioral needs, close collaboration among teachers and special education personnel and parents, and a systemic commitment to locating and employing the necessary resources to ensure that students make progress in the general education curriculum. The general RTI model begins with a tiered approach to quality research-based instruction that is effective for at least 80 percent of students. It then uses general education *and* special teachers to provide research-based interventions and differentiated instruction to those students who are performing below expected levels of achievement. The RTI approach to intervention requires teachers and specialists to work as a team to analyze data and design a customized plan for each student who is struggling to learn. It provides opportunities for professionals to learn from one another and to take that learning into the whole class, small group, and individualized instruction. Parent engagement is a key component of a strong RTI model. Actively involved parents contribute greatly to positive student outcomes. Parents can be engaged in all aspects of RTI, but most assuredly in areas that involve the provision of early intervening services. Parents will need to be familiarized with the RTI process, so that they can provide effective home support for their children and know that they will be kept apprised of their child's progress. Parents should also have input and access to written intervention plans that include details about how the school is planning to help their child.

What would be the implications for the Regina Public Schools of adopting, promoting, and supporting RTI, EBP, and 3TM?

Perusal of the professional literature in special education makes it clear that moving into a RTI/EBP/3TM model would require major change for a school division. Such change would need to be adequately conceptualized, funded, and supported. There would be implications for change at all levels, from philosophy to policy to funding, staffing, professional learning, and practices. These changes would affect not only traditional special education and support personnel, but classroom teachers as well. A diligent program of *professional learning* would need to be planned and implemented, followed by a design phase in which changes could be planned, implemented, monitored and reported. *Saskatchewan Learning's Continuous Improvement Framework (2006) offers a coherent, familiar platform from which to launch and manage such changes.*

What would be the impact upon existing programs and services of adopting, promoting, and supporting RTI, EBP, and 3TM?

Based on studies of the process and impact of implementing an RTI model, significant changes in role and function could be expected at many levels. For professional service providers like school psychologists and speech/language pathologists, role changes have been considered and addressed, with these considerations published in a joint report by 13 participating professional organizations released by NASP (2006). Each professional group used the following framework to identify changes faced by its members: Challenges and Opportunities, New and Expanded Roles, and Meeting the Challenges. In order for RTI to work effectively, schools need to create building-based teams consisting of general and special education teachers as well as other school professionals, such as school psychologists, speech-language pathologists, and reading specialists. These problem-

solving, building-based teams are critical in planning student interventions that provide the kinds of instruction and methodologies struggling learners need to succeed. Involving parents and communicating with them in this collaborative team approach is critical in the successful implementation of RTI.

How can RTI, EBP, 3TM be implemented, with reference to stages and pilot projects?

The researcher was asked to consider the above question in relation to the current RTI literature. A first observation relates to supportive information and resources on RTI. There has been a huge proliferation of published materials on the topic of RTI over the past several years. Endorsement of RTI procedures and practices in the United States IDEA (2004) re-authorization has given rise to widespread efforts to develop accessible materials, information, and guidelines to support RTI implementation. Books and "How To" manuals have proliferated over the past three years or so. Internet resources to support learning about and working with RTI have become widely accessible (see Appendix A for a selected sample). The International Council for Exceptional Children has initiated two-day regional RTI workshops. The following is an exerpt from upcoming workshop registration materials:

> "For educators who are new to the Response to Intervention (RTI) approach, this workshop is a practical guide for every teacher. It offers an overview of key concepts and guidelines of RTI that benefit students in inclusive classrooms. Cara Shores, co-author of *Response to Intervention: A Practical Guide for Every Teacher*, demonstrates how general and special education teachers can use research-based intervention to effectively individualize instruction, monitor student progress, and implement strategies to meet students' specific needs. A true working workshop, the RTI 2-day, provides practical information designed to enable teachers and administrators to implement the RTI process effectively in their districts, schools, and classrooms. Be prepared to play an active role!"
>
> "Participants will have the opportunity to apply their knowledge as they work in teams to develop an RTI plan for a student from their school.
> Learner Outcomes -- Participants will be able to:
> - Identify the major components of two models of RTI
> - Identify resources for selection of research-based strategies and curriculum-based measurement
> - Utilize the RTI process to identify learning problems based on student outcome data."

With substantial regard and deference to the expertise possessed by Regina Public Schools professionals, the following six phase approach to adoption and implementation of an RTI model is respectfully offered.

Phase 1. Leaders Adopt RTI Model

- SSSRC gathers and studies RTI documents and resources, builds shared understanding.
- SSSRC identifies and addresses questions and concerns.
- SSSRC prepares a PowerPoint presentation outlining RTI and rationale for adoption.
- SSSRC recommends the RTI model for adoption by the Regina Public Schools.
- Administrative decision is made to adopt and support the RTI model.
- RTI Administrative Steering Committee is established.

Phase 2. Build Shared Understanding and Commitment

- An experienced expert in RTI is brought in to provide system wide orientation.
- An adoption model with timeline is designed and shared.
- Three partner pilot schools are identified (early adopters), acting as a learning community.
- Create Pilot Schools RTI Steering Committee.
- Intensive in-service for pilot school personnel and support staff is undertaken.
- Share the RTI Model with school communities.

Phase 3. Launch RTI in Pilot Schools

- Rate Schools' "RTI Readiness".
- Identify Resources to be used for RTI, assemble an "Assessment and Intervention Bank".
- Identify Evidence-based Practices for Pilot schools – Tiers I, II, III.
- Obtain assessment measures for screening and progress monitoring.
- Establish fidelity measures.
- Create problem-solving RTI Team structure for each school.
- Establish RTI teams' roles, processes, and procedures.

Phase 4: Implement and Support RTI in Pilot Schools

- Implement evidence-based practices, with fidelity measures.
- Conduct universal screening of academics and behaviour.
- RTI team problem-solving at Tier I – match interventions to student need
- Implement Tier II and III interventions based on assessment data.
- Continuous progress monitoring during interventions.

Phase 5: Evaluate and Refine the RTI model

- Gather end-of-year measures: student achievement, teacher/staff opinions, parent views
- Evaluate utility of assessment tools; revise, revamp, and acquire
- Evaluate effectiveness of interventions at each level; revise, revamp, and acquire
- Identify needed resources, personnel
- Evaluate RTI team effectiveness; refine as needed

Phase 6: Expand the RTI Implementation

- Each of 3 pilot schools adopts 2 new partner schools (3 + 6 = 9 RTI schools by year 2)
- Repeat last 3 steps of Phase 2, Phases 3 to 6

It seems particularly prudent to suggest that in planning and implementing system-wide RTI, there are many successful examples to be found. Particularly in the USA where Federal legislation and funding has spurred widespread adoption, States and school districts have had several years to design, implement, and refine RTI practices. Successful sites could be identified, documentation obtained, and experienced personnel contracted to assist Regina Public Schools with startup. This approach might be particularly effective with three initial Partner Pilot Schools, following which these schools could serve as expert mentors to new schools. One caveat – United States school districts are governed by compliance with complex federal laws and related proceduralism not found

in Canada. As a result, there could be significant differences between aspects of American and Canadian versions of RTI.

Up to date information on State initiatives can be found at The Regional Resource Centers and the Federal Resource Center, available at: http://www.rrfcnetwork.org/component/option,com_bookmarks/Itemid,28/mode,0/catid,86/navstart,0/search,*/

REFERENCES

Algozzine, B., Browder, D., Karvonen, M., Test, D., & Wood, W. (2001). Effects of interventions to promote self-determination for individuals with disabilities. *Review of Educational Research, 71*, 219–277.

Bahr, M., & Kovaleski, J. (2006). The need for problem-solving teams: Introduction to the special issue. *Remedial and Special Education, 27*, 2-5.

Bahr, M., Walker, K., Hampton, E., Buddle, B., et al. (2006). Creative problem solving for general education intervention teams: A two-year evaluation study. *Remedial and Special Education., 27*, 27-41.

Baker, S., Gersten, R., & Lee D-S (2002). Synthesis of empirical research on teaching mathematics to low-achieving students. *The Elementary School Journal, 103*, 51-73.

Baker, J.M., & Zigmond, N. (1995). The meaning and practice of inclusion for students with learning disabilities: Themes and implications from the five cases. *Journal of Special Education, 29*, 163-180.

Barnett, D. W., Daly, E. J., Jones, K. M., & Lentz, F. E. (2004). Response to intervention: Empirically based special service decisions from single-case designs of increasing and decreasing intensity. *Journal of Special Education, 38*, 66-79.

Berliner, D. C. (2002). Educational research: The hardest science of all. *Educational Researchers, 31*, 18-20.

Blackorby, J., Chorost, M., Garza, N., & Guzman, A.M. (2003). The academic performance of secondary school students with disabilities. In M. Wagner, C. Marder, J. Blackorby, R. Cameto, L. Newman, P. Levine, & E. Davies-Mercier (Eds.), *The achievements of youth with disabilities during secondary school: A report from the National Transition Longitudinal Study-2* (NLTS2). Menlo Park, CA: SRI International. Retrieved from SEELS website (http://www.seels.net), August 30, 2007.

Blackorby, J., Knokey, A., Wagner, M., Levine, P., & Schill, E. (2007). *What makes a difference? Influences on outcomes for students with disabilities.* Menlo Park, CA: SRI International. Retrieved from SEELS website (http://www.seels.net), August 30, 2007.

Boudah, D., Schumacher, J., & Deshler, D. (1997). Collaborative instruction: Is it an effective option for inclusion in secondary classrooms? *Learning Disability Quarterly, 20*, 293–315.

Buckley, S., Bird, G., Sacks, B., & Archer, T. (2006). A comparison of mainstream and special school education for teenagers with Down syndrome: Implications for parents and teachers. *Down Syndrome Research and Practice, 9*, 54-67.

Burns, M., & Symington, T. (2002). A meta-analysis of Preferral Intervnetion Teams: Student and

systemic outcomes. *Journal of School Psychology, 40,* 437-447.

Caron. E., & McLaughlin. M. (2002). Indicators of Beacons of Excellence Schools: What do they tell us about collaborative practices*? Journal of Educational and Psychological Consultation, 13*, 285-313.

Chalfant, J., & Pysh, V. (1989). Teacher assistance teams: Five descriptive studies on 96 teams. *Remedial and Special Education, 10*, 49-58.

Chalfant. J., Pysh. M., & Moultrie. R. (1979). Teacher assistance teams: A model for within-building problem solving. *Learning Disability Quarterly, 2,* 85-96.

Christ, T. J., Burns, M. K., & Ysseldyke, J. E. (2005). Conceptual confusion within response-to-intervention vernacular: Clarifying meaningful differences. *Communique, 34,* 1-8.

Cole, C. (2006). What is the Impact of NCLB on the Inclusion of Students with Disabilities? *Centre for Evaluation & Education Policy Brief, 4*, 3. Retrieved from CEEP website (www.indiana.edu/~ceep/), August 25, 2007.

Cole, C. M., Waldron, N., & Majd, M. (2004). Academic progress of students across inclusive and traditional settings. *Mental Retardation, 42*, 136-144.

Cook, L., & Friend, M. (1995). Co-teaching: Guidelines for creating effective practices. *Focus on Exceptional Children, 28,* 1-16.

Council for Exceptional Children (2007). Evidence-Based Practice—Wanted, Needed, and Hard to Get. Retrieved from CEC website (www.cec.sped.org), July 27, 2007.

Cramer, S. (2006). *The special educator's guide to collaboration.* Thousand Oaks, CA: Corwin Press.

Daly, E. J. III, Martens, B. K., Hamler, K. R., Dool, E. J., & Eckert, T. L. (1999). A brief experimental analysis for identifying instructional components needed to improve oral reading fluency. *Journal of Applied Behavior Analysis*, *32*, 83-94.

Downing, J., Ryndak, D., & Clark, D. (2000). Paraeducators in inclusive classrooms. *Remedial and Special Education, 21*, 171–181.

Dyson, A., Howes, A., & Roberts B. (2002). A systematic review of the effectiveness of school-level actions for promoting participation by all students. In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Evans, J., Harden, A., Thomas, J., & Benefield, P. (2003). Support for pupils with emotional and behavioural difficulties (EBD) in mainstream primary classrooms: A systematic review of the effectiveness of interventions. In: *Research Evidence in Education Library*. London: EPPI-

Centre, Social Science Research Unit, Institute of Education, University of London.

Flugum, K., & Reschly, D. (1994). Prereferral interventions: Quality indices and outcomes. *Journal of School Psychology, 32,* 1-14.

Fuchs, D., & Fuchs, L. (2006). Introduction to Response to Intervention: What, why, and how valid is it? *Reading Research Quarterly, 41,* 93-99.

Fuchs, D., Fuchs, L., Bahr, M., Fernstrom, P., & Stecker, P. (1990). Prereferral intervention: A prescriptive approach. *Exceptional Children, 56,* 493-513.

Fuchs, D., Mock, D., Morgan, P. L, & Young, C. L. (2003). Responsiveness-to-intervention: Definitions, evidence, and implications for the learning disabilities construct. *Learning Disabilities Research & Practice, 18,* 157-171.

Gersten, R., & Dimino, J., (2006). RTI (Response to Intervention): Rethinking special education for students with reading difficulties (yet again). *Reading Research Quarterly, 41,* 99-108.

Giangreco, M.F., Dennis, R., Cloninger, C., Edelman, S., & Schattman, R. (1993). "I've counted Jon": Transformational experiences of teachers educating students with disabilities. *Exceptional Children, 59,* 359-372.

Giangreco, M., Edelman, S., Broer, S., & Doyle, M. (2001). Paraprofessional support of students with disabilities: Literature from the past decade. *Exceptional Children, 68,* 45–63.

Giangreco, M., Edelman, S., Luiselli, T., & MacFarland, S. (1997). Helping or hovering? Effects of instructional assistant proximity on students with disabilities. *Exceptional Children, 64,* 7–18.

Giangreco, M., Halvorsen, A., Doyle, M., & Broer, S. (2004). Alternatives to over-reliance on paraprofessionals in inclusive schools. *Journal of Special Education Leadership, 17,* 82-90.

Helmstetter, E., Peck, C.A., & Giangreco, M.F., 1994). Outcomes of interactions with peers with moderate or severe disabilities: A statewide survey of high school students. *Journal of the Association for Persons with Severe Handicaps, 19,* 263-276.

Henderson, A. T., & Berla, N. (1994). *A new generation of evidence: The family is critical to student achievement.* Washington, DC: Center for Law and Education. ERIC document ED375968

Henderson, A., & Mapp, K. (2002). *A new wave of evidence: The impact of school, family and community connections on student achievement.* Austin, TX: Southwest Educational Development Laboratory. Retrieved from SEDL website (www.sedl.org), September 4, 2007.

Howes, A., Farrell, P., Kaplan, I., & Moss, S. (2003). The impact of paid adult support on the participation and learning of pupils in mainstream schools. In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Hunt, P. (2000). "Community" is what I think everyone is talking about. *Remedial and Special Education, 21,* 305.

Idol, L. (2006). Toward inclusion of special education students in general education. *Remedial and Special Education, 27,* 77-94.

Kame'enui, E. J. (2007). A new paradigm: Responsiveness to intervention. *Teaching Exceptional Children, 39,* 6-7.

Kennedy, C. H., Shukla, S., & Fryxell, D. (1997). Comparing the effects of educational placement on the social relationships of intermediate school students with severe disabilities. *Exceptional Children, 64,* 31-47.

Kemp, C., & Carter, M. (2005). Identifying skills for promoting successful inclusion in kindergarten. *Journal of Intellectual and Developmental Disability, 30,* 31-44.

Klingner, J. K., Artiles, A. J., Kozleski, E., Harry, B., Zion, S., Tate, W., Durán, G. Z., & Riley, D. (2005). Addressing the disproportionate representation of cultural and linguistically diverse students in special education through culturally responsive educational systems. *Education Policy Analysis Archives, 13,* 1-39.

Klingner, J., & Edwards, P. (2006). Cultural considerations with Response to Intervention models. *Reading Research Quarterly, 41,* 108-117.

Kovaleski, J., Gickling, E., Morrow, H., & Swank, P. (1999). High versus low implementation of instructional support teams: A case for maintaining program fidelity. *Remedial and Special Education, 20,* 170-184.

Krank, H.M., Moon, C.E., & Render, G.F. (2002). Inclusion and discipline referrals. *Rural Educator, 24,* 13-17.

Lindsay, G. (2007). Educational psychology and the effectiveness of inclusive education/mainstreaming. *British Journal of Educational Psychology, 77,* 1–24.

Marks, S., Schrader, C., & Levine, M. (1999). Paraeducator experiences in inclusive settings: Helping, hovering, or holding their own? *Exceptional Children, 65,* 315–328.

Mastropieri, M. A., & Scruggs, T. E. (2006). *The inclusive classroom: Strategies for effective instruction* (3rd ed.). Upper Saddle River, NJ: Prentice-Hall.

Mastropieri, M., & Scruggs, T. (1997). Best practices in promoting reading comprehension in students with learning disabilities 1976 to 1996. *Remedial and Special Education, 18,* 197-213.

McEneaney, J., Lose, M., & Schwartz, R. (2006). A transactional perspective on reading difficulties and Response to Intervention. *Reading Research Quarterly, 41,* 117-128.

Mellard, D. (2004). *Understanding Responsiveness to Intervention in Learning Disabilities Determination.* National Centre for Research on Learning Disabilities. Retrieved from NCRLD website (www.nrcld.org), July 24, 2007.

Mohr, N., & Dichter, E. (2001). Building a learning organization. *Phi Delta Kappan, 82*, 744-747.

Morocco, C., & Aguilar, C. (2002) Coteaching for content understanding: A schoolwide model. *Journal of Educational and Psychological Consultation, 13*, 315–347.

NASDSE/CASE (2006). Response to Intervention: NASDSE and CASE White Paper on RtI. Retrieved from NASDSE website (www.nasdse.org), July 31, 2007.

National Joint Committee on Learning Disabilities (2005). *Responsiveness to Intervention and Learning Disabilities.* A report prepared by the National Joint Committee on Learning Disabilities representing eleven national and international organizations. June, 2005. Retrieved from National Centre for Learning Disabilities website (www.ncld.org), August 20, 2007.

National Reading Panel. (2000). *Teaching children to read.* Washington, DC: National Institutes of Health. (http://www.nationalreadingpanel.org/)

Newman, L. (2004). *Family involvement in the educational development of youth with disabilities. A special topic report from the National Longitudinal Transition Study-2 (NLTS2).* Menlo Park, CA: SRI International.

Newton, J., & Horner, R. (1993). Using a social guide to improve social relationships of people with severe disabilities. *Journal of the Association for Persons with Severe Handicaps, 18*, 36-45.

Nind, M., & Wearmouth, J. (2006). Including children with special educational needs in mainstream classrooms: Implications for pedagogy from a systematic review. *Journal of Research in Special Educational Needs, 6*, 116-124.

Nind, M., Wearmouth, J., with Collins, J., Hall, K., Rix, J., & Sheehy, K. (2004) A systematic review of pedagogical approaches that can effectively include children with special educational needs in mainstream classrooms with a particular focus on peer group interactive approaches. In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education.

NCCRESt Position Statement (2005). Cultural Considerations and Challenges in Response-to-Intervention Models. Retrieved from NCCRESt website (www.nccrest.org), July 30th, 2007.

Odom, S., Brantlinger, E., Gersten, R., Horner, R., Thompson, B., & Harris, K. (2005). Research in Special Education: Scientific Methods and Evidence-Based Practices. *Exceptional Children, 71*, 137-148.

Peck, C., Donaldson, B., & Pezzoli, A. (1990). Some benefits non-handicapped adolescents perceive for themselves from their social relationships with peers who have severe handicaps. *Journal of the Association for Persons with Severe Handicaps, 15,* 241-49.

President's Commission on Excellence in Special Education (2002). *A New Era: Revitalizing Special Education for Children and Their Families.* Washington, DC: Department of Education Office of Special Education and Rehabilitative Services.

Rea, P.J., McLaughlin, V.L., & Walter-Thomas, C. (2002). Outcomes for students with learning disabilities in inclusive and pullout programs. *Exceptional Children, 68,* 203-222.

Rosenfield, S., & Gravois, T. A. (1996). *Instructional consultation teams: Collaborating for change.* New York: Guilford Press.

Saint-Laurent, L., Dionne, J., Giasson, J., Royer, E., Simard, C., & Pierard, B. (1998). Academic achievement effects of an in-class service model on students with disabilities. *Exceptional Children, 64,* 239-259.

Salend, S.J., & Duhaney, L.M. (1999). The impact of inclusion on students with and without disabilities and their educators. *Remedial and Special Education, 20,* 114-126.

Salend, S. J., & Johansen, M. (1997). Cooperative teaching: The voices of two teachers. *Remedial and Special Education, 18,* 3-11.

Saskatchewan Learning (2006). *Pre-K-12 Continuous Improvement Framework Guide. (Version 1).* Retrieved from Saskatchewan Learning website (www.sasked.gov.sk.ca), September 13, 2007.

Scammacca, N., Roberts, G., Vaughn. S., Edmonds, M., Wexler, J., Reutebuch, C. K., & Torgesen, J. K. (2007). *Interventions for adolescent struggling readers: A meta-analysis with implications for practice.* Portsmouth, NH: RMC Research Corporation, Center on Instruction.

Scanlon, D., Boudah, D., Elksnin, L., Gersten, R., & Klingner, J. (2003). Important publications in the field of LD in light of imminent topics. *Learning Disability Quarterly, 26,* 215-224.

Scruggs, T., Mastropieri, M., & McDuffie, K. (2007). Co-Teaching in inclusive classrooms: A metasynthesis of qualitative research. *Exceptional Children, 73,* 392-416.

Staub, D. (1999). *On inclusion and the other kids: Here's what research shows so far about inclusion's effect on nondisabled students. On point…brief discussions of critical issues in urban education.* Newton, MA: Education Development Center. National Institute for Urban School Improvement.

Sugai, G., Horner, R. H., Dunlap, G., Hieneman, M., Lewis, T. J., Nelson, C. M., et al. (2000). Applying positive behavior support and functional assessment in schools. *Journal of Positive Behavior Interventions, 2,* 131-143.

Tapasak, R.C., & Walther-Thomas, C.S. (1999). Evaluation of a first-year inclusion program: Student perceptions and classroom performance. *Remedial and Special Education, 20*, 216-225.

Truscott, S., Cohen, C., Sama, D., Sanborn. K., & Frank. A. (2005). The current state(s) of prereferral intervention teams: A report from two national surveys. *Remedial and Special Education, 26,* 130-140.

Vaughn, S., Elbaum, B. E., Schumm, J. S., & Hughes, M. T. (1998). Social outcomes for students with and without learning disabilities in inclusive classrooms. *Journal of Learning Disabilities, 31, 428-436.*

Vaughn, S., Linan-Thompson, S., & Hickman, P. (2003). Response to instruction as a means of identifying students with reading/learning disabilities. *Exceptional Children, 69,* 391-409.

Villa, R., & Thousand. J. (2005). *Creating an inclusive school, (2nd ed.).* Alexandria, VA: Association for Supervision and Curriculum Development.

Wagner, M., Newman, L., Cameto, R., Garza, N., & Levine, P. (2005). *After high school: A first look at the postschool experiences of youth with disabilities. A report from the National Longitudinal Transition Study-2 (NLTS2*). Menlo Park, CA: SRI International. Retrieved from National Longitudinal Transition Study 2 website (www.nlts2.org), August 31, 2007.

Wagner, M., Newman, L., Cameto, R., Levine, P., and Garza, N. (2006). *An overview of findings from Wave 2 of the National Longitudinal Transition Study-2 (NLTS2)*. (NCSER 2006-3004). Menlo Park, CA: SRI International.

Waldron, N.L., & McLeskey, J. (1998). The effects of an inclusive school program on students with mild and severe learning disabilities *Exceptional Children, 64*, 395-405.

Wallace, T., Shin, J., Bartholomay, T., & Stahl, B. (2001). Knowledge and skills for teachers supervising the work of paraprofessionals. *Exceptional Children, 67*, 520–533.

Wallace, T., Anderson, A., & Bartholomay, T. (2002). Collaboration: An element associated with the Success of four inclusive high schools. *Journal of Educational and Psychological Consultation, 13,* 349–381.

Wehmeyer, M., & Schwartz, M. (1997). Self-determination and positive adult outcomes: A follow-up study of youth with mental retardation or learning disabilities. *Exceptional Children, 63,* 245-255.

Welch, M., Brownell, K., & Sheridan, S. M. (1999). What's the score and game plan on teaming in schools? A review of the literature on team teaching and schoolbased problem-solving teams. *Remedial and Special Education, 20*, 36-49.

Whitten, E., & Dieker, L. (1995). Intervention assistance teams: A broader vision. *Preventing School Failure, 40,* 41-45.

Zigmond, N. (2003). Where should students with disabilities receive special education services? *Journal of Special Education, 37,* 193-199.

APPENDIX A -- **Resources**

RTI and 3-Tier Models

- Batsche, G., Elliott, J., Graden, J., Grimes, J., Kovaleski, J., Prasse, D., Reschly, D., Schrag, J. and Tilly III, W. (2005). *Response to intervention: Policy considerations and implementation*. Alexandria, VA: National Association of State Directors of Special Education. Retrieved from NASDSE website (www.nasdse.org), July 31, 2007.
- National Association of State Directors of Special Education (2007). *Tools for Promoting Ed Success and Reducing Delinquency.* Retrieved from NASDSE website (www.nasdse.org), September 14, 2007.
- National Association of State Directors of Special Education /CASE (2006). Response to Intervention: NASDSE and CASE White Paper on RtI. Retrieved from NASDSE website (www.nasdse.org), July 31, 2007.
- NASP (2006). *New Roles in Response to Intervention: Creating Success for Schools and Children.* National Association of School Psychologists. Retrieved from NASP website (www.nasponline.org/), September 14, 2007.
- National Research Centre on Learning Disabilities (2006). *Response to Intervention RTI: How to do it.* Prepared by Evelyn Johnson, Daryl F. Mellard, Doug Fuchs, and Melinda A. McKnight. (www.nrcld.org/)
- National Research Centre on Learning Disabilities (2007). *Learning Disabilities and RTI Resource Kit.* Retrieved from NRCLD website (www.nrcld.org), September 14, 2007.
- *Teaching Exceptional Children.* (May/Jun 2007), Special Issue: Responsiveness to Intervention. Volume *39(5).*
- *Responsiveness to Intervention and Learning Disabilities.* A report prepared by the National Joint Committee on Learning Disabilities representing eleven national and international organizations. **(**June, 2005). (http://www.ncld.org/)
- Northwest Regional Comprehensive Centre. Response to Intervention Resources. (http://www.nwrel.org/nwrcc/)
- *Response to Intervention: A Systematic Process to Increase Learning Outcomes for All Students.* Guidance Document for New Mexico Schools, New Mexico Public Education Department, 2006. Retrieved from the New Mexico Public Education website (http://www.ped.state.nm.us/), September 28, 2007.
- Daly, E., Glover, T., & McCurdy, M. (2006). *Response-to-Intervention: Technical Assistance Document.* RtI Ad-Hoc Committee, Nebraska Department of Education & the University of Nebraska. Retrieved from the Response-to-Intervention Consortium website (http://rtinebraska.unl.edu/index.html), September 28, 2007.
- Bender, W., & Shores, C. (2007). *Response to Intervention: A Practical Guide for Every Teacher.* Thousand Oaks, CA: Corwin Press.

Evidence-Based Practices

- What Works Clearing House – Institute of Education Sciences, U.S. Department of Education (http://ies.ed.gov/ncee/wwc/)
- Center on Instruction (http://centeroninstruction.org)

- Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI) -- Social Science Research Unit, Institute of Education, University of London (http://eppi.ioe.ac.uk)
- National Dissemination Center for Children with Disabilities (http://www.nichcy.org/)
- Best Evidence encyclopedia – Center for Data-Driven Reform in Education (http://www.bestevidence.org/)
- Center for Evidence-Based Practices (http://www.evidencebasedpractices.org/)
- The Campbell Collaboration (http://www.campbellcollaboration.org/)
- Promising Practice Network on Children, Families, and Communities (http://www.promisingpractices.net/)
- National Registry of Evidence-based Programs and Practices (NREPP), Substance Abuse and Mental Health Services Administration (SAMHSA) (http://nrepp.samhsa.gov/)

APPENDIX B:
Inclusion and Inclusive Schools: Systematic Reviews from Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI).

Reference Dyson, A., Howes, A, & Roberts B. (2002). A systematic review of the effectiveness of school-level actions for promoting participation by all students. In: *Research Evidence in Education Library.* London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Description This purpose of this review was to identify and evaluate the empirical evidence around the question of what schools can do to maximize the participation of all students in their cultures, curricula and communities. The concern is with responses to student diversity per se, and with what schools can do, not merely to maintain the presence of students in school but to maximize their participation in school life. The review also investigates the wide-ranging actions that schools can take to make themselves more inclusive in this sense. From an initial pool of 325 studies, six key studies were identified for in-depth analysis on the basis of their methodological quality and centrality to the review questions.

Key Findings

- Some schools are characterized by an 'inclusive culture'. There is some degree of consensus amongst adults around values of respect for difference and a commitment to offering all students access to learning opportunities. There is likely to be a high level of staff collaboration and joint problem solving, and similar values and commitments may extend into the student body and into parent and other community stakeholders in the school. Leadership styles are also likely to be inclusive and participatory.
- The extent to which such 'inclusive cultures' lead directly and unproblematically to enhanced student participation is not clear from the research evidence. However, such schools are also likely to make specialist provision in the ordinary classroom rather than by withdrawal, and use constructivist approaches to teaching and learning.
- The local and national policy environment can act to support or to undermine the realization of schools' inclusive values.

Implications

- Schools should pay attention to the development of 'inclusive' cultures and, particularly, to the building of some degree of consensus around inclusive values in the school community.
- School leaders should be selected and trained in the light of their commitment to inclusive values and participatory leadership.
- The external policy environment should be compatible with inclusive developments.
- Schools should remove structural barriers between different groups of students and staff, dismantle separate programs, services and specialisms, and develop pedagogical approaches which enable students to learn together rather than separately.
- Schools should build close relations with parents and communities based on developing a shared commitment to inclusive values.

Reference Evans, J., Harden, A., Thomas, J., & Benefield, P. (2003). Support for pupils with emotional and behavioural difficulties (EBD) in mainstream primary classrooms: A systematic review of the effectiveness of interventions. In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Description Supporting children who are deemed to have 'emotional or behavioural difficulties' (EBD) or 'social, emotional and behavioural difficulties' (SEBD) within mainstream classrooms raises interesting issues for the intersection of behaviour management policies, inclusive schooling and the drive for raising academic standards. This review assesses the effectiveness of different strategies for supporting children with EBD in mainstream primary classrooms in ways that facilitate teaching and learning for all children. Twenty-eight outcome evaluations were included in the review, of which eighteen were from the USA and four from the United Kingdom.

Key Findings

- Behavioural strategies such as the use of rewards for good behaviour were found to have positive effects on reducing disruptive and off-task behaviour.
- One program teaching children a self-instruction technique to monitor their own behaviour was effective. Other strategies using similar cognitive-behavioural techniques, which take account of the capacity of individuals to understand and reflect on their behaviour, require further evaluation.
- A range of cognitive-behavioural strategies for reducing aggression or improving social skills was found to have immediate positive effects but no long-term effects.
- Changing seating arrangements for pupils from groups to rows had a positive impact on time on task.
- The use of Circle Time as a way of improving behaviour needs more evaluation.
- Issues considered to be important in relation to implementing strategies were: (according to teachers) simplicity and acceptability, consistency across the school and avoiding 'top-down' implementation; and (according to children) consulting and listening to children.

Implications

- The interventions listed above have been shown to work by at least one reliable evaluation. More research is needed in relation to other interventions.

Reference Nind, M., Wearmouth, J., Collins, J., Hall, K., Rix, J., Sheehy, K. (2004). A systematic review of pedagogical approaches that can effectively include children with special educational needs in mainstream classrooms with a particular focus on peer group interactive approaches. In: *Research Evidence in Education Library.* London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Description There is a statutory requirement on mainstream schools to provide effective learning opportunities for all pupils by setting suitable learning challenges, responding to pupils' diverse learning needs and overcoming potential barriers to learning and assessment. While research has sought to establish the effectiveness of particular pedagogies or the impact of school actions on pupil participation, there has been no prior systematic review that can answer the question of which pedagogical approaches can effectively include children with SEN aged 7-14 in mainstream classrooms. This review focuses specifically on peer group interactions. Ten studies met criteria for the in-depth review; nine of these were conducted in the USA. Six focused on literacy and six were conducted in primary school settings.

Key Findings

- There is some evidence of the effectiveness of co-operative learning, particularly in literacy. There is also evidence of effectiveness for guided enquiry and Circle of Friends.
- There is evidence of impact on both academic learning and community participation, as well as on children's views of their own competence, acceptance and self-worth.
- Teachers used the model of pupil as learner and having active agency; they made use of organizational support for peer-group interactive approaches; and they applied a holistic approach to skill development.

Implications

- There is some evidence that peer group interactive approaches can be effective and policy should not deter teachers from adopting such approaches.
- Teachers should recognize that effective teaching for inclusion is complex, often combining attention to (subject-specific) adaptation of teaching or curriculum with attention to community participation, social grouping and roles within the group. Teaching approaches that effectively include children with special educational needs cannot be reduced to simplistic formulae but rather bring together teacher skills alongside a willingness and ability to utilize pupil skills.
- Given the complex nature of inclusive and peer group interactive pedagogy, teachers in training would need opportunities to reflect on their practices in the light of the existing research base.

Reference Howes, A., Farrell, P., Kaplan, I., Moss, S. (2003). The impact of paid adult support on the participation and learning of pupils in mainstream schools. In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Description There has been a massive rise in the number of paid support staff being employed to work alongside teachers in mainstream schools and classrooms. In the UK, the majority work as teaching assistants (TAs), but recently they have been employed learning mentors. To date, no systematic review of international literature has been conducted that has focused on the question of whether and how support staff in classrooms have an impact on pupils' learning and participation in schools and classrooms. Is there evidence that pupils learn and participate more effectively in mainstream schools when support staff are present in classrooms?

Key Findings

Cluster A: The impact on paid adult support on the inclusion of students seen as having special educational needs (SEN)

- Can be effective mediators or 'connectors' between different groups and individuals in the school community.
- Paid adult support staff who are valued, respected and well-integrated members of an educational team are seen as positively impacting the inclusion of SEN pupils in mainstream classrooms, particularly in regard to these pupils' participation.
- Paid adult support staff who are not valued and not included with teachers and school management in the decision-making process are seen as being less effective in promoting the inclusion and participation of SEN pupils.
- Sometimes can be seen as stigmatizing the pupils they support.
- Paid adult support staff can sometimes thwart inclusion by working in relative isolation with the pupils they are supporting and by not helping their pupils, other pupils in the class and the classroom teacher to interact with each other.
- Paid adult support staff are generally seen as having a positive impact on the inclusion of pupils with SEN and this has been reflected by parents, teachers and pupils.

Cluster B: Effect of paid adult support on overall achievement

- No consistent or clear overall effect on class attainment scores.
- Paid adult support may have an impact on individual but not class test scores.
- Most studies do not distinguish between all the ways in which paid adult support staff can work with students.
- Qualitative evidence of impact is much more positive. The perceptions of participants in the same studies that indicate little impact of paid adult support on attainment, stress the significant effect on attainment that support staff can have.

Cluster C: Sociocultural issues on impact

- Sociocultural aspects of pupils' lives and the school community are important, but often neglected elements of the thinking about paid adult support staff's impact on pupils' learning and participation.
- Paid adult support staff fulfill important roles as mediators in a number of contexts, as they mediate between pupils, teachers, specialists, parents and even different cultures.

- Knowledge of pupils' cultures, behaviours, languages and interests can be utilised by paid adult support staff to impact positively on their learning and participation.

Cluster D: The detail of effective paid adult support practice

- Paid adult support staff can positively affect on-task behaviour of students through their close proximity.
- Continuous close proximity of paid adult support can have unintended, negative effects on longer-term aspects of pupil participation and teacher engagement.
- Less engaged teachers can be associated with the isolation of both students with disabilities and their support staff, insular relationships between paid adult support staff and students, and stigmatization of pupils who come to reject the close proximity of paid adult support.

Implications

- Support staff should continue to be employed to work alongside teachers in mainstream classrooms.
- A nationally agreed structure for salaries, service conditions and progression to qualified teacher status should be agreed.
- Support staff should have induction and in-service training opportunities, including joint training with teachers.
- One-to-one teaching should be combined with supported groupwork in mainstream classrooms. This needs to be reviewed regularly to ensure that the balance is correct.
- Support staff, teachers, and where appropriate pupils, should work together in planning and implementing programs of work. Sufficient time should be provided to allow this to happen.

Reference Kalambouka, A., Farrell, P., Dyson, A., Kaplan, I. (2005). The impact of population inclusivity in schools on student outcomes. In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Description The growth in the number of pupils with special educational needs (SEN) being placed in mainstream schools has raised concerns about the potential negative impact of this policy on the achievement of their peers without SEN. This refers to the inclusion in a regular school population of students who in otherwise comparable schools might be placed outside the mainstream. It excludes evidence relating to inclusion of pupils with English as an additional language (EAL) or the inclusion of pupils from ethnic minorities. In addition, although very important, the review ignores evidence of the impact of inclusivity on the following groups: teachers, principals, managers and other school-related staff, parents and caregivers of students aged 5–16 with SEN and/or students without SEN. The review synthesized the results of 26 studies, which contained a total of 40 separate findings.

Key Findings

- Taken as a whole the findings indicate that placing children with SEN in mainstream schools is unlikely to have a negative impact on academic and social outcomes for pupils without SEN.
- The findings are slightly more positive for academic rather than social outcomes.
- At the secondary level, where there were very few studies, the outcomes were slightly more mixed.
- Some of the findings suggest that the inclusion of pupils with SEN in primary schools can have a positive impact on the achievement of their mainstream peers, particularly if the support offered to the pupil with SEN is well managed.
- There is no evidence about whether the ‘inclusion effect’ is more or less pronounced for any one particular curriculum area.

Implications

The review findings suggest that there is no empirical evidence to support expressed concerns about the impact of inclusion on achievement, especially in elementary schools. This applies across all of the four categories of SEN. Implementation of the inclusion agenda may address these concerns through the provision of appropriate information and support to schools, parents and pupils. Further research is needed on the views of pupils without SEN about inclusion.