Identifying Successful Practices for Students with Disabilities in Ohio Schools
Evidence-Based Practices in Special Education
A Review of the Literature

July 2013

Ohio Special Education Research Project

Ohio Coalition for the Education of Children with Disabilities

Ohio Coalition for the Education of Children with Disabilities

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Publications as part of this study:

Evidence-Based Practices in Special Education: A Review of the Literature

Identifying Successful Practices for Students with Disabilities in Ohio Schools: Final Report

OCECD Special Education Research Project: Executive Summary

This study was funded by the Ohio Department of Education, Office for Exceptional Children.

Table of Contents

Introduction

This report reviews the literature on best practices for students with disabilities and at-risk students. This literature review was conducted as the first stage of the Ohio Special Education Research Project. The goal of the OCECD Project is to enhance the understanding of educational strategies that are commonly found in schools with successful track records in the education of students with disabilities. Funded by the Ohio Department of Education (ODE), the study is being conducted by the Ohio Coalition for the Education of Children with Disabilities (OCECD).

The OCECD Research Project comprised two stages. The first stage, which spanned from October to December 2012, included the review of research on educational practices related to improved academic performance for students traditionally at risk for academic failure; that is, students with disabilities and economically disadvantaged students. The findings from the literature review were then used to build the conceptual framework for the second stage of the study. The second stage comprised a field study conducted between January and May of 2013 with two community schools and 10 public school districts that represented 5 of the 7 school district typologies in Ohio.

The report is divided into four sections:

- Section One defines the goals and strategies adopted for the literature review;
- Section Two discusses the definition of evidence-based practices (EBP) and the types of evidence that are acceptable from a research perspective;
- Section Three presents the findings from the review; and
- Section Four organizes these findings into the framework that guides the study.

Section One: Literature Review Process

Purpose

The goal of the literature review was to identify research related to evidence-based best practices in special education. Therefore, the review focuses on documents supported by research that discuss policies and practices used by school districts and schools with a track record of successfully serving students with disabilities. The ultimate purpose of the literature review is to define the conceptual framework for the OCECD study.

Definition of Terms

For this review, the terms *successful schools* and *high-performing schools* are used synonymously. The terms *high-performing* and *low-performing* were adopted directly from the literature, and a discussion of how these terms are defined in the documents reviewed is provided in Section Three. Likewise, the term *practices* reflects the literature's usage and, as discussed in Section Two, indicates instructional strategies, policies, structural components, or perspectives on education.

Research Questions

(1) How does the literature define successful or high-performing schools?

(2) What does the literature say about the practices identified in high-performing schools regarding students with disabilities?

(3) What similarities and differences exist in practices adopted by high-performing and low-performing schools related to students with disabilities?

(4) To what extent are the practices identified in high-performing schools for students with disabilities similar or different from practices identified in high-performing schools for other disadvantaged students?

(5) To what extent are these identified practices evidence-based?

Search Process

The review focused on literature related to best practices in special education in public, private, and charter schools, from kindergarten through high school, in the United States. Within this topic, the search targeted articles in peer-reviewed research journals, technical documents, and books written in the past 12 years, from 2000 through the present.

The search for documents to be reviewed started with the use of Google Scholar, a broad Internet-based search engine. The next step was a search of Web sites for known public and private organizations, which included, among others,

- U.S. Department of Education (both the National Center for Research Statistics and the Institute of Education Sciences)
- Council of Chief State School Officers (CCSSO)
- National Center on Instruction at RMC Research Corporation
- National Comprehensive Center for Teacher Quality at American Institutes for Research
- National Dissemination Center for Children with Disabilities (NICHY)
- National Center on Educational Outcomes at the University of Minnesota
- Education Trust
- What Woks Clearinghouse

Additionally, the following specialized electronic databases were searched: EBSCO Host Academic Search; Dissertation Abstracts; PsycINFO; and ProQuest Research Library. Web sites of state education agencies (SEAs) also were reviewed, including those from Ohio, California, Florida, New York, Tennessee, and Texas.

Terms used for the search included: special education best practices, special education lessons learned, what works special education, students with disabilities high achievement, evidence-based practices, best practices, and high-performing schools.

Criteria for Inclusion

The process described above produced close to 170 documents with some connection to the topic. The identified documents were screened again according to the following criteria:

- *Research-based*: the review included only documents that reflected research, although no limitations were imposed on the quality or types of research (experimental, quasi-experimental, or qualitative);
- *Evidence of outcome*: the document provided information on the criteria used to define *success* or *high-performance* and for what groups of students;
- *Focus on practices*: accepted documents were required to include information on performance with a focus on practices that could explain the successful performance, rather than the performance itself. Although the term *practices* was defined by the

various research documents, the focus was on school-wide and/or district-wide practices, rather than specific instructional programs, such as *Success for All* or *Read 180*.

While the focus of the literature review was on research related to best practices in special education, research on best practices in general education, with a focus on economically disadvantaged students also was included for two reasons. First, many students with disabilities come from low socioeconomic backgrounds. Second, both groups struggle academically and exploration of successful strategies for the two groups adds to the generalizability of the findings and feasibility of replication.

Additionally, a number of articles were reviewed related to the definition of evidence-based best practices and standards of quality for educational research. The discussion of evidence-based practices, summarized in Section Two, provides a foundation for the analysis of the literature review.

Despite a concerted effort to find as many documents as possible that were relevant to the theme, the review was far from exhaustive. Few references were published in peer-reviewed journals, the most reliable source in terms of availability, as most journals are easily found in university libraries nationwide. The majority of the references that appeared relevant were from unpublished reports that had once been available on Internet sites but no longer. Others had been available from the Education Resources Information Center (ERIC), which is now in the process of reviewing all of its documents for considerations related to privacy laws. A total of 19 documents were selected. These documents investigate practices in elementary, middle, and high schools across the country that were identified as successful in improving the performance in student subgroups who tend to fall behind academically, particularly students from low socio-economic background and students with disabilities.

Section Two: Evidence-Based Practices (EBP)

Defining EBP

The concept of evidence in the field of education has come into focus during the past decade with the rise of movements for evidence-based practices and policies (Denzin & Giardina, 2008). As part of those movements, the two major federal education legislations—the *Individuals with Disabilities Education Act* (IDEA) and the *No Child Left Behind Act* (NCLB)—emphasized the identification and use of practices that are evidence-based or research-based, yet no clear definitions of the terms were presented. Hence, the meaning and potential applications of evidence-based practices (EBP) in education, particularly in special education, are still open to interpretation (Cook, Tankersley, Cook, & Landrum, 2008).

Originated in the medical field, the term *EBP* relates to "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient" (Sackett, 1996, p. 71). As defined, the concept refers to individual judgment based on clinical expertise and supported by "the best available external clinical evidence from systematic research" (p. 71).

In education, EBP may refer to a variety of different concepts. Cook and Cook (2011) highlighted two basic meanings: macro-EBP, which refers to educational programs that encompass entire curricula; and micro-EBP, or specific practices within larger programs or initiatives. The review of the literature revealed that EBP is used to indicate concepts as varied as skills (e.g., type of leadership), programs (e.g., Connected Math), instructional techniques or strategies (e.g., sounding out letters), broad initiatives (e.g., professional development), and policies. Within this range of possibilities, EBP identifies the application of the best available evidence in the provision of interventions, strategies, or services to enhance learning outcomes (Cook, Tankersley, & Harjusola-Webb, 2008; Cook, Tankersley, & Landrum, 2009; Metz, Espiritu & Moore, 2007; Peters & Heron, 1993).

The challenge is not so much that EBP may indicate a different set of concepts. As noted by Cook, Tankersley, Cook & Landrum (2008), the challenge is that the term may create the illusion of the existence of reliable, unquestionable evidence that the practices are indeed effective in improving students' educational outcomes.

Assessing the Evidence

Researchers recommend two criteria to define a practice as evidence-based: (1) quality of initial research, and (2) the number of quality studies that support the same finding (Coalition for Evidence-Based Policy, 2003; Gersten et al., 2005; Odom et al., 2005).

Quality. To address concerns from educators and researchers, the U.S. Department of Education funded the What Works Clearinghouse (WWC) to become the "central and trusted source of scientific evidence for what works in education" (Institute of Education Sciences, n.d., para.1). As a foundation for their review work, WWC established evidence criteria divided into three categories: strong evidence, weaker evidence, and insufficient evidence. According to the WWC parameters (What Works Clearinghouse, 2011), "Currently, only well-designed and well-implemented randomized controlled trials (RCTs) are considered strong evidence, while quasi-experimental designs (QEDs) with equating may only meet standards with reservations" (p. 11).

The WWC accepts that qualitative research, such as case studies, may provide information about the ways in which interventions work; it can also be used to substantiate promising practices (Odom et al., 2005). Qualitative research provides insight into how and why interventions may or may not work and identify personal and contextual factors that influence the implementation and results of the intervention (McDuffie & Scruggs, 2008). Yet, as stated above, the golden and only method by which to establish causal inference is RCT, which rarely fits the context of special education for a variety of reasons (Gersten et al., 2005). First, students who receive special education reflect a heterogeneous group with disabilities that affect learning processes differently, further complicated by the fact that varying intensities may present for a single disability. This heterogeneity creates challenges for a method that relies on the use of equivalent groups. Second, particularly in the case of low incidence disabilities, the limited numbers of students (participants) weakens the power of the analysis. Third, researchers must account for the complexity of the educational context in special education, with its range of options beyond the traditional concept of classroom or even school. Indeed, legislative requirements regarding the right to free and appropriate education, and the changing nature of students' placement in response to individualized education programs/plans (IEPs), create added challenges to the RCT design, whereby a child may be placed in a non-treatment setting based solely on a random selection rather than need (Gersten et al., 2005).

It is important to observe that even RCTs cannot be accepted at face value. As highlighted in the WWC citation above, RCTs must be well designed and well implemented. The same rule of rigor applies to other research methods. For qualitative research, the rigor becomes even more demanding with the increased threat of subjectivity and bias (Boaz & Ashby, 2003; Bratlinger, Jimenez, Klinger, Pugach, & Richardson, 2005).

Requirements proposed for qualitative research that can withstand criticisms include: (1) pose significant questions that can be investigated empirically and contribute to knowledge base; (2) apply methods that are appropriate to the research questions; (3) ensure the study design methods and procedures are sufficiently transparent for potential replication; (4) collect data in a systematic and informed manner; (5) base the analysis on clear chains of inferential reasoning supported and justified by relevant literature; (6) evaluate alternative explanations for the findings; and (7) continuously assess the possible impact of systematic bias (Cook & Schirmer, 2006; Cook, Tankersley, Cook et al., 2008; Gersten, Baker, & Lloyd, 2002; National Center for the Dissemination of Disability Research [NCDDR], 2003).

Quantity. In addition to well-designed and implemented research, a second criterion to define whether a practice is evidence-based includes the presence of more than one strong research study to corroborate findings. Proposals include at least two studies, if experimental methods are used, and five studies for a single-subject research design (Gersten et al., 2005; Horner et al., 2005). Yet replication of studies in an educational context presents a new series of challenges. Slavin (2008) observed that education research is too context-bound to allow broad generalizations. Therefore, systematic reviews and replication studies in different contexts become essential before a practice can be classified as evidence-based in contexts beyond those of their original application (Slavin, 2008). Particularly in special education, myriad educational settings in which specific programs may be implemented offer unique challenges for researchers.

Strength. Cook et al. (2009) proposed a third criterion to define evidence of success: magnitude of effect. It is not enough to say that a practice or intervention caused a change in the measured outcome (criterion one) and that this change was corroborated by a number of similarly well-implemented studies (criterion two). The magnitude of the change should be assessed, particularly as any new practice or intervention comes with costs, including training, resources, and the anxiety of change. Magnitude of effect is measured mathematically by determining effect size, and the WWC defined a six-category scheme by which to rate the impact

of interventions on desired outcomes (WWC, 2011). Yet calculations of effect size require well-defined and measurable outcomes that may not be so easy to obtain.

WWC proposed the following criteria by which to assess the strength of evidence regarding educational programs and practices (WWC, 2010):

- The extent of evidence is medium to large if all of the following are true:
  - The domain includes more than one study.
  - The domain includes more than one school.
  - The domain findings are based on a total sample size of at least 350 students OR, assuming 25 students in a class, a total of at least 14 classrooms across studies.
- The extent of evidence is small if any of the following are true:
  - The domain includes only one study.
  - The domain includes only one school.
  - The domain findings are based on a total sample size of less than 350 students and, assuming 25 students in a class, a total of less than 14 classrooms across studies.

Summary. To define EBP, it is essential to (1) understand what is being defined as practices (skills, policies, programs, or techniques), (2) know the type and the quality of the research that produced the statement that the practices are successful, and (3) know how much change these practices impose on the targeted outcome. It is relevant to observe the following:

> If different methodologies are appropriate for addressing important questions in special education, then we, as a field, need to be clear about (a) the match between research questions and methodology, (b) the features of each methodology that represent high quality, (c) and the use of research findings for each methodology as scientific evidence for effective practices in special education. (Odom et al., 2005, p. 146)

Implementation of EBP

Despite an increased focus on the use of EBP in special education research, the identification and correct implementation of these practices are still developing. Torres, Farley, and Cook (2012) suggested that to implement EBP effectively, implementers should gauge the student and classroom environment, differentiate practices to suit students' needs, monitor implementation fidelity, and advocate for those practices that prove effective in the attainment of the proposed objectives. Indeed, as stated by Cook and Schirmer (2006), "Identifying effective practices is only meaningful to the extent that they are applied (and applied with fidelity) with children and youth with disabilities" (p. 181).

Slavin (2008) argued for three essential requirements of evidence-based reform: (1) development of rigorous evaluations for promising innovations that can be used on a broad scale; (2) federal, state, and local policies to support promising innovations and ongoing evaluation; and (3) systematic reviews that translate research findings into a language accessible to educators and policymakers. Without these three requirements, attempts to implement an evidence-based educational system may fail.

Regardless of the quality and strength of research findings, the adoption of EBP is ultimately a decision of school districts and/or schools nationwide. The reason for the adoption of a specific EBP, and most of all, the method by which it is adopted must be known before outcomes can be examined. A review of the literature on implementation research reveals that successful implementation depends on at least four essential factors: (1) the selection and training of all of the individuals involved in the implementation; (2) the presence of infrastructure necessary for training, support, supervision, and ongoing assessment of implementers; (3) consumer involvement in the selection and evaluation of programs and practices to be adopted; and (4) funding, policies, and regulations that support the implementation of those practices (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005).

Cook, Tankersley, Cook et al., (2008) suggested that rather than changing the nature of teaching or requiring teachers to follow prescribed methods, districts and schools should prioritize, rather than impose, EBPs. The authors argued that this process allows teachers to maximize the impact of their instructional efforts, without suffocating their creativity or forcing a one-size-fits-all approach on a diversified student population. According to Cook, Tankersley, Harjusola-Webb (2008), an EBP will have little impact on students' educational experiences if the teachers regard these practices as limiting their instructional freedom and ignoring their professional wisdom. The diversity of students with disabilities (i.e., with varying disabilities, levels of functioning, cultures, and language proficiency) make the selection and implementation of EBPs in special education a complex task. Additionally, findings from implementation research emphasize the need for sustainable professional development and support related to implemented practices and ongoing evaluation of the implementation with corrective action as needed (Cook, Tankersley, Cook et al., 2008; Fixsen et al., 2005).

In a study based on interviews with approximately 50 elementary special education teachers in Texas and Florida, researchers found that teachers seldom used EBP in their

classrooms because of a multitude of reasons including: (1) a general disbelief and skepticism regarding EBP and the idea that it is just another fad; (2) diversity of the student population promotes the strong belief that one size does not fit all, particularly in special education; (3) the influence of parents, who may require a different approach; and, (4) lack of time and resources needed to adopt new programs and strategies (Boardman, Arguelles, Vaughan, Hughes, & Klingner, 2005).

A recent article by the Division of Research of the Council for Exceptional Children (Cook & Cook, 2011) provided the following guidelines for the adoption of EBPs in special education: (1) avoid describing empirically validated instructional approaches as best or recommended practices; (2) specify the rationale for recommending practices on the basis of theoretical, ethical, legal, or anecdotal support rather than referring to such practices as best or recommended; (3) specify the level and type of research that supports a practice rather than referring to practices that have some empirical support but do not meet evidence-based criteria as research-based; and (4) refer to practices as EBPs only when these practices are supported by studies that meet prescribed evidence-based criteria related to research design, quantity and quality, and magnitude of effect (Cook & Cook, 2011).

Section Three: Findings from the Literature

Method

Using the process described in Section One, 18 documents were found that reflect the three proposed inclusion criteria: the documents (1) were published between 2000 and 2012; (2) employed an investigative process for data collection and analysis; and (3) focused on practices adopted by schools that were successful in improving the academic performance of students with disabilities and those schools that were successful in improving the academic performance of other groups of struggling learners (or at-risk students), particularly economically disadvantaged students. Note that in this report we refer to these schools as *high-performing schools*. Studies of high-performing schools that focus on the performance of at-risk students have common attributes with those that focus specifically on students with disabilities. Per request from the funder, one more report was included that focused on five school districts that were obtaining strong results with improving the performance of students with disabilities through the use of assessment and accountability. Therefore, this review encompasses findings from 19 reports.

Seven of the 19 reviewed documents focused on high-performing schools for students with disabilities, and the remaining 12 studies examined high-performing schools that served a majority of at-risk students. The documents reflected practices adopted in schools located in Alabama, California, Colorado, Florida, Georgia, Illinois, Indiana, Kentucky, Massachusetts, North Carolina, Tennessee, Texas, and Washington. Five of the studies involved Ohio schools.

Three of the 19 documents reflected different research methods: a literature review, an audit process to examine and collect data, and a review of the status of special education in three large Midwest cities. The remaining studies identified achievement by examining results for one or more indicators of student performance, particularly statewide assessments, while taking into account school and students' characteristics, including demographics, school size, geographical location, and others. Data regarding practices in the selected schools were then collected by using interviews, site visits, and, in some cases, surveys. Three documents compared practices from high-performing to those used at low-performing schools.

The following seven studies focused on schools that were successful in improving the performance of students with disabilities:

- *Ellis, Gaudet, Hoover, Rizoli, and Mader (2004)* reviewed demographics relative to students who received special education services in Massachusetts and divided the school districts in four categories, according to the percentage of minorities and economically deprived students. Within each category, the authors examined the achievement of students with disabilities in four statewide assessments (both results and growth) and determined a proficiency index and pass rate. Nine districts defined as high-performers were then subdivided into the four categories and a team of researchers visited five of those districts. The data collection method included observations and interviews.
- *Edmonds and Spradlin (2010)* reviewed five-year results of Indiana's statewide assessments and controlled for contextual factors, including family income and single-parent homes. Data on district and school practices were collected from focus groups with representatives of the five top-ranked districts.
- *Huberman and Parrish (2001)* reviewed the scores of students with disabilities on statewide assessments in California during four school years (2005-06 through 2008-09) and controlled for student demographics. Twenty districts were identified; from those, eight were selected for further study: four districts with poverty levels above the state average and four with poverty levels below the state average. Data collection included a one-hour phone interview with special education directors from each district.
- *Huberman, Parrish, Arellanes, Gonzalez, and Scala (2012)* revisited the performance of Californian students but focused on results for all student subgroups, including students with disabilities. As in the study above, the selection of districts involved only the unified school districts, which serve about 70% of the state's student population. A district achievement index was created to represent the difference between actual academic performance of each student subgroup and the statistically predicted performance based on student demographic. The research team conducted site visits in districts that obtained the highest indices to interview school district leaders and randomly selected principals of elementary, middle, and high schools.
- *Mandlawitz (2003)* examined the status of special education in three cities: Cleveland, OH; Chicago, IL; and Milwaukee, WI. Although the study did not focus on high-performing schools, it provided important insights about the successes and challenges of educating students with disabilities in large urban settings.

- *Ohio State University (OSU), Center for Special Needs Population (2005)* conducted a study of Ohio's Schools of Promise that had high passing rates for students with disabilities. ODE recognizes as Schools of Promise those that have 40% or more of their students from low-income backgrounds and meet or exceed state standards (75% passing rates in reading, mathematics, or both for all student subgroups). The study involved 18 schools (12 elementary, 2 middle, and 4 high schools). Interviews were conducted with principals, teachers, parents, and students. In some schools, curriculum directors, superintendents, community members, and special education supervisors from the Educational Service Centers also were interviewed.
- *Telfer (2011)* describes how school districts in places as far as Ohio, Illinois, Florida and Georgia have improved the performance of students with disabilities by using data to inform instructional practices.

Twelve documents focused on high-performing schools that serve large percentages of at-risk students:

- *Anderson and DeCesare (2008)* studied eight schools in Colorado. The schools were selected according to their results in the state assessments for reading, writing, and mathematics between 2004 and 2006. Selected schools exceeded 50% of students from low-income backgrounds. At each school, the researchers interviewed school leaders and faculty members and reviewed data related to personnel, funding, and allocation of resources.
- *Bowers (2008)* drew from literature on successful corporations to develop a conceptual framework for high-achieving school districts. He then tested the framework with a school district in a Midwestern state (not identified) by using the difference between actual composite scores in the state test and predicted composite scores to identify high-achieving districts. Data collection included classroom observations and interviews with teachers, administrators, and district staff.
- *Craig et al. (2005)* examined six schools in Tennessee that scored in the 80th percentile or above on the NCE and ACT tests, and elementary schools that scored in the 95th percentile on the NCE tests. Content areas examined included English, mathematics, and writing. Data on school practices were collected using interviews, document reviews, and surveys that involved teachers, parents, and community members.

- *Dailey et al. (2005)* reviewed literature on strategies that help public schools districts in high-poverty areas promote high achievement for all students.
- *Hagelskamp and DiStasi (2012)* examined nine high-poverty schools in Ohio with at least 85% graduation rates and at least 75% of students (overall and by subgroup) passing the state assessments in reading and mathematics. Data on school practices were collected from focus groups with teachers, parents, and students and individual interviews with school leaders, support staff, and community partners. This is the only study that mentioned that the researchers provided schools and faculty with monetary incentives for participation.
- *Kannapel and Clements (2005)* used the Kentucky audit process to identify high-performing and low-performing schools that served large percentages of at-risk students. In addition to information from the audit documents, the authors conducted site visits to selected schools, where they observed classrooms and interviewed staff members.
- *Ragland, Clubine, Knight, Schneider, and Smith (2001)* ranked high schools in high-poverty districts in Texas using a number of indicators: the Texas Learning Index, Algebra I examination, enrollment in advanced placement courses, and improvement in the Texas Assessment of Academic Skills. Researchers visited five of the high schools at the top of the list and conducted interviews, observations, and document reviews. The report is part of a number of studies supported by The Dana Center at the University of Texas, Austin, related to high-performing schools in Texas. The most recent report of the series was unavailable.
- *RMC Research Corporation (2003)* reviewed six urban schools identified as Schools of Promise (at least 40% of students from low income backgrounds and at least 75% with passing rates in statewide assessments). The study used the Schools of Promise (SOP) Framework of Practice to identify the extent to which those schools adopted research-based practices related to school improvement.
- *Robinson, Stempel, and McCree (2005)* compared four high-impact schools with three middle-impact schools with similar student demographics. The authors defined *high-impact* as schools that had greater-than-expected growth across three years in reading and mathematics and curtailed achievement gaps across student subgroups. The schools were located in North Carolina and California. Data were collected from document reviews;

classroom observations; focus groups with teachers and students; and surveys of administrators, teachers, and students.

- *Shannon and Bylsma (2007)* updated a previous study conducted in 2002 with high-performing schools in Washington. The document reported on a discussion about the state of the literature five years after the original study.
- *Suffren and Wallace (2010)* authored a study on high-poverty urban schools in Ohio. They used three-year results on statewide assessments to identify high-performing schools and collected data using interviews and site visits to eight of the selected schools. The schools visited were 4 public schools, 2 charter schools, and 2 magnet schools.
- *William, Kirst, and Haertel (2005)* conducted a large-scale survey in California that involved 5,500 teachers and 257 principals. Survey responses were compared using a score to differentiate school performance, controlling for student demographics.

The next two subsections summarize findings from these two groups of studies separately. Initially, findings from the studies on high-performing schools for students with disabilities are summarized. The summary of findings from high-performing schools for at-risk students then follows.

High-Performing Schools for Students with Disabilities

The review of the literature on high-performing schools for students with disabilities presented findings that range from vision to specific instructional interventions. These findings are organized into six broad categories: IDEA requirements, defining principles, infrastructure, school organization, external supports, and instructional strategies. To facilitate reading, within this subsection the term *high-performing schools* identifies those high-performing schools for students with disabilities.

IDEA requirements. Although common sense may suggest that good educational practices should be effective for all students, the education of students with disabilities involves specific requirements dictated under IDEA. Least restrictive environment, Individualized Education Planning (IEP), and a focus on transition, particularly of students from high school to adult life, are some of the statutory requirements that regulate special education. It is thus interesting to observe the dearth of references to these requirements in studies that focused on the education of students with disabilities.

Before students can receive services funded under IDEA, they need to be identified as having a disability. The process of identification and referral is the first step into special education. The Massachusetts high-performing schools had a focus on early identification of students who may enter special education (Ellis et al., 2004). Mandlawitz (2003) observed improvements in the process of identification of students and referral for services in Chicago. However, he also highlighted that the processes for early identification and referral were still inadequate and many children were entering school without proper services.

All students who receive special education services under IDEA must have an IEP that is reevaluated frequently. Mandlawitz (2003) observed that one of the three cities studied (Milwaukee) had streamlined the IEP process. Yet, this was the only reference to IEP in the reviewed literature.

Transition was a focus of high-performing schools in the study by Huberman et al. (2012). Schools in this study placed special attention on transitions at all levels of education and offered specific programs to integrate students in their new environments, including, in some schools, peer mentoring (Huberman et al., 2012). Alternatively, Ellis et al. (2004) highlighted transition as an area of concern at the studied schools, with a loss of student support in key points, such as the transition from elementary to middle school, from middle to high school, and from high school to adult life.

IDEA also establishes that students with disabilities must be taught in the least restrictive environment possible. The placement of students with disabilities in general classrooms has been adopted by many school districts across the country as a way to address this requirement and to improve the academic performance of these students. All four districts studied by Huberman and Parrish (2001) used this inclusion strategy. In two of the districts all students with disabilities were taught in regular classrooms, and the other two districts had adopted a blended system. However, in all districts, students with disabilities had access to the core curriculum, regardless of whether or not they were being taught in inclusive classrooms (Huberman & Parrish, 2001). Ellis et al. (2004) found that high-performing schools adopted a range of strategies to ensure that students with disabilities have access to the core curriculum, including co-teaching, in which a general and special educator share full responsibility for teaching, or resource teachers contribute to the process. While observing the expansion of inclusion in Cleveland, Mandlawitz (2003) expressed a concern that teachers (general and special education) were stretched too thin and the

paperwork required from teachers was making it more difficult for the district to attract and maintain quality personnel.

Two studies identified concerns related specifically to special education. Ellis et al. (2004) emphasized the challenges faced by schools in educating students with disabilities who have limited English proficiency. Mandlawitz (2003) highlighted the impact of courts on the districts' policies and practices, as litigation has become a prominent feature of special education.

Defining principles. Defining principles include findings related to goals, vision, and attitudes that characterize the schools' approaches to education. Five of the seven documents reported that the high-performing schools shared clear instructional vision, which included high expectations for all (faculty and students alike) and the belief that all students can learn (Edmonds & Spradlin, 2010; Ellis et al., 2004; Huberman et al., 2012; OSU, 2005, Telfer, 2011). Describing the Indiana high-performing schools, Edmonds and Spradlin (2010) found an emphasis on positive relationships that foster a sense of belonging and trust. In these schools, administrators, faculty, and students shared responsibility for the teaching-learning process.

Infrastructure. Infrastructure is the framework that supports the schools and without which they cannot function. This includes buildings, funding, and resources, such as technology. Funding was mentioned in two of the reviewed documents. Mandlawitz (2003) highlighted inadequate funding as a concern across the three cities visited. Lack of funding was threatening to bring cuts to personnel and programs, thus compromising the delivery of services (Mandlawitz, 2003). Ellis et al. (2004) commented that high-performing schools in Massachusetts were using different strategies to expand resources, including partnering with nearby universities or colleges and applying for grants.

The impact of the physical environment on students was mentioned in one study. Ellis et al. (2004) observed that all of the high-performing schools visited were either in new or renovated buildings, and the authors wondered about the impact of the pleasant environment on students' performance. In a century dominated by information and communication technologies, it is noteworthy that only one study mentioned technology, such as the use of computer for skill development (Huberman et al., 2012).

School organization. While defining principles and infrastructure provide the conceptual and physical framework within which a school operates, its organization establishes the

necessary processes to move principles into action. The organization also creates facilitators or barriers to instruction. The term school organization includes findings related to school environment, leadership, and teachers' organization and supports.

Two of the reviewed studies noted that high-performing schools for students with disabilities were concerned with providing a safe environment conducive to learning (Ellis et al., 2004; OSU, 2005). In both studies, the schools implemented clear rules of behavior that were consistently imposed school-wide, known to all (faculty, students, and parents), and aimed at the creation of safe environments. Ellis et al. (2004) observed that the approach to discipline in these schools emphasized responsibility for one's actions and shifted the behavior management approach from punishment for negative actions to rewards for good behavior. The Ohio schools that were studied by OSU (2005) had adopted various behavior management programs, including the Positive Behavior Intervention and Supports (PBIS).[1] The common feature in the behavior management approaches adopted by those schools was the focus on rewards for positive behavior and celebration of student success (OSU, 2005).

Mentions of the role of school leadership were found in three studies: Edmonds and Spradlin (2010), Ellis et al. (2004), and OSU (2005). Leaders in these schools were described as engaged, sharing decisions with school staff (Edmonds & Spradlin, 2010), unafraid to take risks and support creativity (Ellis et al., 2004), and focused on improving instruction (OSU, 2005). All three studies observed that no single style of leadership was connected to high-performing schools. According to Ellis et al. (2004):

> The presence of effective leaders is not surprising, as most research into high performing schools highlights the crucial role of leaders in developing and implementing a vision for their district or school building. The sometimes frustrating aspect of this observation is that leadership is difficult to replicate and a leadership style that works well in one setting may not work as well in another. (p. 11)

The processes used to organize and support teachers at high-performing schools were highlighted in six reviewed documents, and collaboration among teachers was the common finding of all of those studies. Huberman and Parrish (2001) observed collaborative work among teachers in all four districts visited and the presence of special education teachers as part of leadership teams. In one of the districts, general and special education teachers formed

[1] For more information, visit the Center for Technical Assistance on PBIS at http://www.pbis.org/

professional learning communities, which also included the school psychologist (Huberman & Parrish, 2001). The use of professional learning communities and collaboration between general education and special education teachers also were noted by Edmonds and Spradlin (2010) and Huberman et al. (2012). Edmonds and Spradlin (2010) commented that the professional learning communities provided teachers with an enhanced sense of self-efficacy and professional growth. Ellis et al. (2004) found collaboration among teachers to be a common feature of the high-performing Massachusetts schools. There, one school district adopted co-teaching and others offered extra support to the general education teachers by the use of specialists. Mandlawitz (2003) noted that Milwaukee was improving collaboration among general education and special education teachers as a strategy to improve results for students with disabilities.

Although collaboration was a common finding in the literature, only one study (Ellis et al., 2004) noted the value of respect for teachers' planning time to guarantee the collaborative process. However, the authors observed that in the majority of the schools, common planning time occurred within grade level, and collaboration across grades and across content areas was hampered by a lack of time or happened at the expense of teachers' free time. One school resolved the challenge by hiring a permanent substitute teacher who was familiar with the students and available to cover when teachers needed time for planning (Ellis et al., 2004).

Three documents reported a focus on professional development. Mandlawitz (2003) observed that Chicago used IDEA funds to improve teacher training. In the schools studied by Ellis et al. (2004), professional development was intensive and either offered to all staff or used a train-the-trainer approach whereby one staff person received training under the obligation to train peers. Huberman and Parrish (2001) also observed an emphasis on professional development at high-performing schools in California. The professional development involved all teachers and was targeted to meet the needs of a diversified student population; special education teachers received training focused on improving their understanding of the core curriculum (Huberman & Parrish, 2001).

External support. External support is provided to the schools by three main stakeholders: district, families, and community. District support may take different forms, including supportive hiring policies, emphasis on teacher retention and growth, and instructional leadership. Hiring practices were observed in 3 of the 7 reviewed documents. Huberman et al. (2012) reported that high-performing schools aimed to hire teachers and leaders whose vision

aligned that of the school. In one of the districts visited by Ellis et al. (2004), all teachers had dual certifications (general and special education); in another district, the human resources staff would reach out to colleges as early as January to recruit interns for training as new teachers. The visited districts had instituted mentoring processes for new teachers and focused on placing teachers according to their abilities rather than using a seniority system (Ellis et al., 2004). Huberman et al. (2012) and OSU (2005) found that in some districts, central office staff were actively involved at the school level and visited schools to provide mentoring and support. Alternatively, Ellis et al. (2004) expressed concern that districts may create obstacles to school improvement by implementing policies that add or move programs from one school to another before their impacts can be studied.

As a characteristic of high-performing schools, parental (or family) support was only found as a factor in the study conducted by OSU (2005) in Ohio. The schools emphasized that they worked closely with parents and maintained ongoing communication with the families. Some schools had a parent liaison staff position, and others offered services to parents, such as parent libraries (OSU, 2005). Ellis et al. (2004) included parental involvement as a concern, as the schools were using different strategies to engage parents, but none of these strategies appeared to be working. Mandlawitz (2003) also commented on the lack of parental involvement in the systems she examined.

Community support was mentioned in the OSU study (2004) and Ellis et al. (2004). Partnerships with business, institutions of higher education, and governmental agencies provided added resources to schools such as tutoring, mentoring, and job-shadowing.

Instructional strategies. Under this category are included findings related to curriculum, instructional programs, assessments, and use of data. The literature reviewed highlighted two major findings regarding curriculum. First, as related to the concept of inclusion, students with disabilities in high-performing schools had access to the core curriculum (Ellis et al., 2004; Huberman & Parrish, 2001; Mandlawitz, 2003; OSU, 2005). These schools offered rigorous curricula that were aligned with the state standards and supported teachers in the implementation of the curricula (Ellis et al., 2004; OSU, 2005). Ellis et al. (2004) mentioned the use of instructional coaches and content leaders (e.g., math leaders) to support general and special education teachers. OSU (2005) described the use of curriculum mapping, pacing charts, vertical

curriculum alignment (from middle to high school), and the use of student groups organized by learning needs rather than the presence or absence of disabilities.

High-performing schools also were found to use assessments to monitor student progress (Huberman & Parrish, 2001; Mandlawitz, 2003; OSU, 2005, Telfer, 2011). In the schools studied by Ellis et al. (2004), teachers took extra time to prepare students for the statewide assessment, plan accommodations for students with disabilities, and help families understand the assessment process to reduce anxiety. At the same time, these teachers created other opportunities for students to succeed rather than rely solely on the state assessment program (Ellis et al., 2004). Directly related to the assessments is the finding of use of data to plan instruction (Ellis et al., 2004; OSU, 2005). In both studies, teachers were found to use different assessments, including homegrown assessments, to gauge student progress and guide instruction accordingly. The school districts in Telfer (2011)'s study used student performance data to establish a process of continuous improvement. Funded upon the analysis of student academic and behavioral data, schools fine-tuned their goals, modified strategies that were not working, strengthened those that were working, and brought new strategies that better addressed newly defined needs and goals.

The adoption of specific instructional methods to provide or support instruction was mentioned in two studies. Of the four districts studied by Huberman and Parrish (2001), two used Explicit Direct Instruction (EDI), one used Guided Language Acquisition Design (GLAD) strategies, and 3 of the 4 were adopting Response to Intervention (RtI).[2] Huberman et al. (2012) mentioned the use of RtI and smaller learning communities, in addition to extra supports offered to struggling learners in after-school programs, during-school programs, and peer mentoring. Practices mentioned in the OSU (2005) study included full-day kindergarten, a focus on reading at all levels, and various strategies for extra support, such as the use of an academic coaching program or an additional 30 minutes added to the end of the school day. Ellis et al. (2004) found a diversity of instructional programs, connected by the overall concern that any program or practice adopted by the schools had to be aligned with the state standards and district curriculum.

[2] For information, please see the following sites: EDI (http://www.dataworks-ed.com/research/edi); GLAD Project (http://www.projectglad.com/glad.html); and RtI (http://www.rti4success.org/)

High-Performing Schools for At-Risk Students

Findings from the 12 documents that examined high-performing schools for at-risk students were organized within the same components described above, except for the IDEA requirements, which apply only to students who receive special education services. These components are: defining principles, infrastructure, school organization, external supports, and instructional strategies. In this subsection, the term *high-performing school* refers to schools that have been successful in improving the academic performance of economically disadvantaged students.

Defining principles. The authors of all 12 documents identified high-performing schools as a learning environment inspired by strong principles that include a culture of *we can* (Suffren & Wallace, 2010), and with clear and high expectations that are shared by administrators, teachers, students, and families (Dailey et al., 2005; Hagelskamp & DiStasi, 2012; Ragland et al., 2001; RMC, 2003; Robinson et al., 2005; William et al., 2005).

Robinson and colleagues (2005) compared high-performing (called *high-impact*) schools and average-impact schools in Kentucky. The researchers found that the high-impact schools had clear expectations for all students and faculty maintained these expectations consistently, whereas expectations in the average-impact schools were inconsistent (e.g., teachers tolerated standards and assessments but did not embrace them). Another finding from this study was that high-impact schools focused on preparing students for life beyond high school; that is, for college and career, whereas average-impact schools focused on high school graduation (Robinson et al., 2005).

Craig et al. (2005) observed that high-performing schools in Tennessee had a student-centered mission and a focus on supporting teaching and learning. In three studies in different states (Kentucky, Texas, and Washington), high-performing schools were found to be committed to high expectations but also to foster positive relationships among teachers, administrators, students, and families and to create a nurturing environment in which individuals feel valued (Kannapel & Clements, 2005; Ragland et al., 2001; RMC, 2003; Shannon & Bylsma, 2007). Hagelskamp and DiStasi (2012), studying high-performing Ohio schools, found that administrators and teachers committed to make a difference in students' lives, set high expectations for all students, and made no excuses for academic failure. This sense of personal

responsibility and accountability for student learning also was a finding of the study on Colorado high-performing schools by Anderson and DeCesare (2008).

Infrastructure. Seven of the 12 documents made some reference to components of infrastructure, mainly funding and technology. Researchers discussed funding as a concern for the struggling schools to maintain personnel and resources (Dailey et al., 2005; Shannon & Bylsma, 2007; Suffren & Wallace, 2010). Bowers (2008) noted that the schools used a variety of strategies to generate funds, such as pooling funding sources and applying for grants. Kannapel and Clements (2005) observed that even high-performing schools were poor in technology, although they used the available resources efficiently. Alternatively, in the California study, the high-performing schools were more likely than low-performing schools to be located in districts that provided them with sufficient and up-to-date instructional materials (William et al., 2005). Anderson and DeCesare (2008) found the high-performing Colorado schools had purchasing power for technology, supplies, professional development, and staff support. Two of the schools in that study had complete budgetary discretion and others were allowed flexible use of their budget (Anderson & DeCesare, 2008).

School organization. As in the previous subsection, this component includes findings related to school environment, school leadership, and teachers' organization and supports. The implementation of a safe environment with clear expectations for student behavior was a finding of three studies (Hagelskamp & DiStasi, 2008; RMC, 2003; Suffren & Wallace, 2010). Hagelskamp and DiStasi (2008) observed that administrators and teachers set high expectations for student behavior, enforced rules consistently, and promoted a school climate focused on learning. Suffren and Wallace (2010) reported the use of positive reinforcement, with consequences for behavior consistently applied and embedded in the school culture.

Ten of the 12 studies mentioned school leadership as an important factor in high-performing schools. In six studies, leaders in high-performing schools were found to focus on instruction, spend time in the classrooms, provide supports to teachers, and hold them accountable for student learning (Anderson & DeCesare, 2008; Craig et al., 2005; Dailey et al., 2005; RMC, 2003; Shannon & Bylsma, 2007; Suffren & Wallace, 2010). Three studies highlighted the use of shared leadership, whereby administrators involve teachers in decisions related to the school (Craig et al., 2005; Hagelskamp & DiStasi, 2008; Shannon & Bylsma, 2007). William et al. (2005) found that principals in high-performing schools use data to develop

strategies and follow student progress. Likewise, Ragland et al. (2001) observed the principals take over the work of examining data to give teachers more time for instruction.

According to Robinson et al., (2005), principals in high-impact schools were willing to adjust class sizes so that teachers with struggling learners had smaller classes and could provide more individualized attention to their students. Alternatively, teachers with less needy students had larger classes. Principals in average-impact schools imposed uniform class sizes, regardless of students' needs. Hagelskamp and DiStasi (2008) noted that principals in high-performing schools led with strong and clear vision, engaged staff in problem-solving and decision-making, and never lost sight of the school's goals and students' outcomes. School leaders and teachers in those schools sought to improve practices and results continuously and used successes to energize and challenge one another and to motivate students (Hagelskamp & DiStasi, 2008). In contrast, the review of state audits in Kentucky found that leadership was one of the few standards for which scores for high-performing and low-performing schools showed no differences (Kannapel & Clements, 2005).

Two studies mentioned low leadership turnover as an asset of high-performing schools (Anderson & DeCesare, 2008; Suffren & Wallace, 2010). The challenge, according to Suffren and Wallace (2010), is to find methods by which to ensure continuity of leadership for those schools.

Teacher collaboration was a finding in 6 of the 12 studies (Anderson & DeCesare, 2008; Craig et al., 2005; Hagelskamp & DiStasi, 2008; Kannapel & Clements, 2005; Ragland et al., 2001; RMC, 2003). Anderson and DeCesare (2008) mentioned an engrained sense of collaboration among teachers and between teachers and administration in the Colorado high-performing schools. According to Hagelskamp and DiStasi (2008), administration in high-performing schools provided opportunities and incentives for teachers to collaborate and teachers enjoyed the opportunity to work together and share best practices. The RMC study on Ohio Schools of Promise described the use of coaches or teacher leaders to provide extra support. Teacher leaders (or content area leaders) also were found in the schools examined by Suffren and Wallace (2010). Scheduled planning time was mentioned in two studies (Ragland et al., 2001; RMC, 2003). However, in the Ohio study, common planning time was provided only for same grade level but not across grades or across content areas (RMC, 2003).

Four of the documents mentioned professional development. In high-performing schools, professional development is tied to teachers' needs (Craig et al., 2005) and focused on the analysis of data on student performance (Kannapel & Clements, 2005). Anderson and DeCesare (2008) noted that administrators and teachers were actively involved in planning professional development, and leaders assured time for training by allowing early release, duty-free time during school hours, and similar strategies. In the study by Robinson et al. (2005), the high-impact schools were found to have structures in place to support new teachers, as compared to the average-impact schools, where supports for new teachers took more of a social nature. In the 2005 review of the literature, high-performing schools were found to offer multiple, professional learning opportunities for principals and teachers, including in-school support, such as mentorships (Dailey et al., 2005). Bowers (2008) found an innovative solution to ensure time for teacher planning and professional development. The district hired long-term substitute teachers (100-day substitute) who were trained with the regular teachers to become familiar with the schools, the curricula, and the students. These substitute teachers could easily cover classrooms as needed, to free the classroom teacher for planning and professional development activities.

External support. These supports are offered to the schools by the district, families, and communities. Regarding community and family involvement, Craig et al. (2005) observed that all six schools studied were near universities and had strong community and family involvement. Robinson et al. (2001) commented that although both high- and average-impact schools had partnerships with business and colleges, they differed in the ways they profited from the partnerships. High-impact schools were more likely to use the partnerships to prepare students for postsecondary life, whereas average-impact schools used partnerships for school activities, such as drug abuse and dropout prevention.

The schools studied by Anderson and DeCesare (2008) required parents to sign agreements that spell out the expectations of all stakeholders, including parents. High-poverty, high-performing schools in Texas had an open-door policy for parents (Ragland et al., 2001), whereas the Ohio urban Schools of Promise focused on engaging families and community (RMC, 2003). Two of those schools had parent liaison positions, and two had business partnerships (RMC, 2003). Alternatively, the Ohio schools examined in the study by Hagelskamp and DiStasi (2012) did not focus on parent or community involvement. Moreover, according to those authors, the faculty did not see the absence of partnerships as an

insurmountable barrier to student learning. Likewise, the literature review conducted by Dailey et al. (2005) elicited conflictive findings, with some studies showing a critical impact of community supports, whereas others found that family and community partnerships were not as important.

District supports include policies, hiring practices, and instructional leadership. Findings within this topic were not consistent. Kannapel and Clements (2005) found that district support varied across schools and had little influence in their performance. Suffren and Wallace (2010) defended more autonomy for the schools, proposed the expansion of charter schools, and recommended that neighborhood assignments should be forgotten in favor of more parental choice. Alternatively, the responses to the California survey showed a correlation between high-performing schools and supportive districts (William et al., 2005).

One of the ways a district may support or hamper school performance is with hiring practices. Suffren and Wallace (2010) proposed that decisions regarding the hiring process be maintained at the school level, which reflects the belief that the presence of structured hiring processes and a culture of high expectations is sufficient to attract and retain quality teachers. Teachers' commitment is a common feature of those high-performing schools, and teachers see their collective contracts as a floor, rather than a ceiling for their responsibility (Suffren & Wallace, 2010). The involvement of school personnel, including teachers, in the hiring process also was a finding for high-performing schools in California and North Carolina (Robinson et al., 2005) and Colorado (Anderson & DeCesare, 2008). In the high-performing schools studied by Bowers (2008), applicants for teaching positions were evaluated for their potential to be team players, and teachers were involved in the hiring process to assess whether the new colleague would fit as member of the team.

Responses to a statewide survey in California suggested that high-performing schools have more experienced teachers with at least five years' experience (William et al., 2005). In Tennessee high-performing schools, Craig et al. (2005) found that new teachers received supported from both formal and informal mentoring systems.

Instructional leadership is another finding related to district support. Dailey et al. (2005) found in their review of the literature that high-performing districts focus on improvement of instruction, work collaboratively with schools, and share responsibility for student learning. These districts also enact comprehensive, system-wide reform policies with a long-term focus

but gradual implementation. Likewise, Bowers (2008) commented that the high-performing district prioritizes instructional resources and quality implementation of programs, creates consistency across schools, and requires school administrators to be instructional leaders. In the California study, responses to the survey suggest that supportive districts are more likely to include schools with higher academic performance by their students. These districts evaluate principals based on the alignment of school curriculum to district standards, use student data from a variety of sources (state assessments, curriculum tests, commercial standardized tests) to evaluate teacher practices and identify areas for improvement, and provide site-level support for improvement (William et al., 2005).

Instructional strategies. Findings organized under this broader component included references to curriculum alignment, ongoing assessments of student performance, use of instructional strategies or programs, and extra support for students who struggle academically. Five studies emphasized the importance of alignment between school curriculum and state standards (Anderson & DeCesare, 2008; Craig et al., 2005; Kannapel & Clements, 2005; RMC, 2003; Shannon & Bylsma, 2007). Anderson and DeCesare (2008) found that high-performing schools focus on core content areas without jeopardizing humanities and arts education. Ohio urban Schools of Promise align the curriculum within grades (horizontal) and across grades (vertical; RMC, 2003). A focus on implementation of standards-based curriculum and programs and the use of vertical and horizontal alignment also were findings for high-performing schools in California (William et al., 2005).

Another finding related to instruction is the ongoing use of assessments for student screenings, diagnostics, and/or progress monitoring (RMC, 2003; William et al., 2005). High-performing schools were found to use multiple measures to evaluate student progress and plan instruction (Craig et al., 2005; Dailey et al., 2005; Kannapel & Clements, 2005; RMC, 2003; Suffren & Wallace, 2010). Anderson and DeCesare (2008) observed that target assessments are central to student academic success, with teachers using benchmark assessments, regular check-ins, and scheduled time to discuss the data with administrators. Likewise, high-performing schools in Washington used multiple forms of student assessment to engage in frequent reflections about teaching and learning (Shannon & Bylsma, 2007). In Texas high-performing schools, teachers are trained in the use of data to make instructional decisions (Ragland et al., 2001).

Teachers in high-performing schools in Ohio expressed that the analysis of data on student performance is informative and helpful in their planning instruction, and provides them with opportunities to share information and experiences with their peers (Hagelskamp & DiStasi, 2012). All teachers from those schools used statewide assessment data and some collected their own information by using homegrown assessments and student surveys (Hagelskamp & DiStasi, 2012). Robinson et al. (2005) observed a considerable difference in the use of data related to the level of school achievement. The high-impact schools use data to plan lessons and improve curriculum and teacher assignments, and the average-impact schools use data to measure past student performance (Robinson et al., 2005).

None of the studies highlighted the use of a set of organized instructional strategies or program (e.g., Read 180, EDI), except for Bowers (2008), who studied a district that was implementing *Success for All*.[3] The author described the district's concern with the rigorous implementation of the program and its success (Bowers, 2008). Craig et al. (2005) observed that high-performing schools adopt a variety of strategies to support struggling learners, including reinforcement or remediation of essential skills, reteaching, additional assignments, and field trips. Individualized attention to struggling learners was a finding in four studies: Anderson and DeCesare (2008); Craig et al., 2005; Kannapel & Clements (2005); and Ragland et al. (2001).

High-performing schools were found to be concerned with preservation of instructional time (Suffren & Wallace, 2010) and the efficient use of instructional time (Kannapel & Clements, 2005). The Ohio urban Schools of Promise use pacing guides to ensure consistency of instruction and reserve time for core content areas (e.g., elementary schools had 75-120 minutes a day for English and 75-90 minutes for mathematics; RMC, 2003).

Extra academic supports for struggling learners were noted in three studies. High-performing schools in Colorado provide students with an elective period to finish work in core content areas (Anderson & DeCesare, 2008). In the study by Robinson et al. (2005), high-impact schools ensure extra help in English and mathematics, mostly within class time, to maintain the students in college preparatory courses rather than pull them into remedial instruction. Additionally, these schools use a variety of warning systems for early identification of struggling learners, require these students to enroll in intervention strategies, and involve counselors in the

[3] For information on *Success for All*, please see http://www.successforall.org/

process. Alternatively, in average-impact schools, instead of attending college preparatory courses, struggling learners are enrolled in low level, remedial courses and have no time to complete the courses required for college entrance. Additionally, extra help tends to be optional, and counselors are not involved in the academic support process (Robinson et al., 2005).

Hagelskamp and DiStasi (2012) found that students in Ohio high-performing schools feel valued and confident that teachers will help them whenever needed. School administrators and faculty are creative in the use of incentives for student academic success and positive behavior, such as increased computer time, free food, class trips, or movie nights, within their limited budgets. As Hagelskamp and DiStasi (2012) commented,

> None of the schools examined here followed the exact same path to high achievement. The diverse stories of these nine schools provide encouraging evidence that change is possible and can occur in different ways. Yet in each school, administrators and staff pointed to some form of a fresh start as impetus for change. And nearly all told us that they began seeing improvements once they became willing to experiment with practices, to self-assess and to make adjustments along the way. (p. 4)

An aspect of high-performing schools noted in three studies was the potentially provisional nature of their success. Every year, schools deal with a new cohort of students who have a variety of backgrounds, experiences, and needs (Craig et al., 2005; Ellis et al., 2004; Suffren & Wallace, 2010). To remain high-performing in the face of continuous mobility is a challenge that schools must face.

Section Four: Conclusion

This section revisits the findings in Section Three to address the five research questions posed in Section One. The purpose of this section is to sift through the lists of findings to identify those with higher frequency in the two groups of studies (i.e., studies on high-performing schools for students with disabilities, and studies on high-performing schools for at-risk students). Commonalities and differences in findings across the two groups are noted followed by a brief analysis of how these findings fit into a discussion of evidence-based practices. The section ends with an initial proposal of components for a conceptual framework from which to examine school practices that may be related to success in improving the academic achievement of all student subgroups.

Responses to the Research Questions

(1) How does the literature define high-performing schools?

Of the 19 documents reviewed, one reflected the analysis of responses from a statewide survey of teachers and school administrators (William et al., 2005), another was a literature review (Dailey et al., 2005), and two others were descriptive studies of special education practices in selected school districts across the nation (Mandlawitz, 2003; Telfer, 2011). The remaining studies used a mix of quantitative and qualitative methods to rank the schools and examine their practices. As detailed in Section Three, researchers used a variety of indicators of student academic performance to identify school achievement, most frequently results in the statewide assessment programs. Some studies used multiple indicators to develop a district (or school) performance index (e.g., Craig et al., 2005; Ellis et al., 2004; Huberman et al., 2012). Some researchers were careful to control for school demographics and location, and others used statistical techniques to compare potential and actual growth. Edmonds and Spradlin (2010) controlled even for family income and single-parent families. A few studies used state definitions of high-performing schools (e.g., Kannapel & Clements, 2005; OSU, 2005; RMC, 2003). After ranking districts or schools according to their performances, researchers collected data on districts and /or schools' vision, organization, and practices by using mostly qualitative methods, such as interviews, classroom observations, and/or document reviews. Quantitative methods, such as surveys, also were used, although with less frequency.

(2) What does the literature say about the practices identified in high-performing schools for students with disabilities?

Seven studies focused on schools that were succeeding in improving the academic performance of students with disabilities (Group A). Table 1 summarizes the findings and the number of studies that reported those findings. As in any summary, the table omits or oversimplifies the wealth of information revealed by these studies. Section Three supplements the information provided in the table. The categories on the left-hand side of the table are artifacts created by the research team to organize the findings in fewer, related groups.

Table 1: Summary of Findings: High-Performing Schools for Students with Disabilities

Categories	Findings	# of Studies
IDEA requirements	Early identification	2
	Focus on facilitating transition	2
	Use of inclusion	2
Defining principles	High expectation for all and shared responsibility for achievement	4
Infrastructure	Creative use of funding	1
	New/renovated buildings	1
School organization	Clear behavior expectations and positive reinforcement	2
	Leadership focuses on instruction but no specific style	3
	Teacher collaboration (general education & special education)	7
	Professional learning communities	2
	Guaranteed planning time to collaborate	1
	Ongoing professional development tailored to teachers' needs	3
External supports	District policies focused on hiring & maintaining high quality personnel	3
	District staff supporting instruction at school level	2
	Family involvement	1
	Business, universities, colleges partnerships	2
Instructional strategies	Access to core curriculum for all students	4
	Ongoing assessments with the use of data to inform instruction	5
	No specific instructional strategies and programs	3

Note. Total number of studies = 7.

Although the list is quite long, only four findings were shared by more than half of the Group A studies. Collaboration among teachers, particularly among general and special education teachers, was a common finding in all seven studies, although only one (Ellis et al., 2004) mentioned that those teachers had scheduled planning time to collaborate. Ongoing use of student assessments to plan and modify instruction was a finding in five (71%) of the Group A

studies. A finding common to four (57%) of the studies was high expectation for all stakeholders (administrators, teachers, students, and sometimes families) with a shared sense of responsibility for student learning. Access to core curriculum for students with disabilities was also a finding in four (57%) of the studies. It is important to observe that access to core curriculum was a finding even in schools (and districts) that were not identified as having full inclusion.

Findings common to three (43%) of the Group A studies included: school administrators as instructional leaders; ongoing professional development tailored to teachers' needs; and districts with policies focused on hiring and maintenance of high quality personnel. Three studies also observed that the schools used different instructional strategies or programs, such as RtI, PBIS, or EDI, and no one program was common across schools (even within the same study).

(3) What similarities and differences exist in practices adopted by high-performing and low-performing schools related to students with disabilities?

None of the Group A studies included information on low-performing schools. Therefore, this question cannot be answered.

(4) To what extent are the practices identified in high-performing schools for students with disabilities similar or different from practices identified in high-performing schools for at-risk students?

This question is addressed in three stages. First, findings from the Group B studies (high-performing schools for economically disadvantaged students) are summarized in the same way as for question (1), followed by a discussion of similarities and differences between high-performing and low-performing schools, still within Group B studies. The most frequent findings from Group A and Group B studies are then compared.

(4a) What does the literature say about the practices identified in high-performing schools for at-risk students?

Table 2 summarizes the findings from the 12 Group B studies. Three findings were common to more than half of the Group B studies: high expectations shared by all stakeholders (administrators, teachers, students, and families); administrators as instructional leaders; and the use of ongoing student assessments to plan and modify instruction. When the list incorporates findings from half of the studies (i.e., six studies), two new findings are included: teacher collaboration and professional development tied to teachers' needs.

Table 2. Summary of Findings: High-Performing Schools for At-Risk Students

Categories	Findings	# of Studies
Defining principles	High expectations shared by all	12
Infrastructure	Presence of updated technology	2
School organization	Clear rules of conduct consistently enforced in positive ways	3
	Administrators as instructional leaders	10
	Shared leadership, creative leadership	4
	Collaboration among teachers	6
	Teacher support through coaching and mentoring	3
	Professional development tied to teachers' needs	6
External supports	Partnerships with business, colleges and universities	2
	Families and communities support schools	5
	Family involvement is not essential	2
	District has little or negative influence on school achievement	2
	District has strong influence on school achievement	4
Instructional strategies	Curriculum alignment with state standards	5
	Ongoing assessments with the use of data to inform instruction	10
	Individualized attention to students who are struggling academically	4
	Attention to time in instruction	3
	Extra academic supports for needy students (after school, etc.)	3

Note. Total number of studies = 12.

(4b) What similarities and differences exist in practices adopted by high-performing and low-performing schools related to at-risk students?

Three studies compared practices adopted by high-performing and low-performing schools. In the study by Robinson et al. (2005), the high-impact schools, when compared to average-impact schools, were more likely to:

- Have high, consistently maintained expectations regarding all stakeholders;
- Prepare students for college and careers rather than limit their focus to preparation of students to graduate from high school;
- Use community partnerships to prepare students for careers and college, such as tutoring, job shadowing, and mentoring;
- Have formal structures to support new teachers;
- Involve teachers in the hiring of school personnel;
- Use student achievement data to improve instruction;

- Provide all students access to college preparatory courses and create a system of early warning signs and mandatory supports to ensure that struggling learners can succeed in those courses.

William et al. (2005) conducted a large-scale survey in California and compared responses using a district performance index. Responses from teachers and administrators in districts that scored high were more likely to indicate:

- Teachers and principals are involved in ongoing analysis of data on student progress to improve instruction;
- The majority of teachers in those schools had five or more years of experience;
- The schools had sufficient and up-to-date instructional materials;
- A focus on implementation of standards-based curriculum and programs and the use of vertical and horizontal curriculum alignment by both districts and schools; and
- Districts use student performance data to evaluate teacher practices and identify areas for improvement; district staff visits the schools to provide mentoring and support.

Kannapel and Clements (2005) reviewed state audits and showed that high-poverty, high-performing schools scored significantly higher than high-poverty, low-performing schools in the following four standards:

- Review and alignment of curriculum;
- Caring, nurturing environment of high expectations for all students;
- Ongoing professional development connected to student achievement data; and
- Efficient use of resources and instructional time.

(4c) How do findings from both groups of studies compare?

Table 3 lists side by side the most frequent findings from Group A and Group B studies. To be included in the table, findings had to be mentioned in at least half (50%) or more of the studies in each group or be a specific finding in at least two of the studies that had comparison groups. Additionally, the absence of findings (such as no use of a specific program) is omitted. Findings from one of the Group A studies are not integrated into this table (Telfer, 2011) because of its particular focus on one element (use of data).

Table 3. Comparison of Findings: Students with Disabilities and At-Risk Students

Group A: Students with Disabilities		Group B: At-Risk Students	
Findings	**%***	**Findings**	**%***
Teacher collaboration	100	Teacher collaboration	50
High expectations for all	67	High expectations for all	100
Access to core curriculum	67		
Ongoing assessments/data inform instruction	67	Ongoing assessments/data inform instruction	83
Administrators as instructional leaders	50	Administrators as instructional leaders	83
Ongoing professional development tailored to teachers' needs	50	Ongoing professional development tailored to teachers' needs	50
Districts focused on hiring and maintaining high quality personnel	50		
		Alignment of curriculum and standards	C**
Number of studies in the group	**6**	**Number of studies in the group**	**2**

Note. *Percentage of studies that included those findings;
**C: This finding was common to all three studies that used comparison groups.

Therefore, in this somewhat simplistic analysis, five characteristics of high-performing schools were frequently found in studies for each group (A *or* B) and common to both groups of studies (A *and* B). These findings are:

- Collaboration among teachers: Collaboration may have been more important for students with disabilities as general and special educators must work together to help those students. However, it also is a frequent finding for schools in the Group B studies;
- High expectations for all stakeholders, including administrators, faculty, students, and families;
- Use of ongoing assessment of student performance to plan and modify instruction;
- School administrators use a variety of leadership styles but share a focus on teaching and learning; and
- Professional development is ongoing and tailored to the needs of teachers.

Findings related to district support were contradictory for Group B studies but appeared more relevant for the education of students with disabilities (Group A). Access to core curriculum is a common finding of the Group A studies, and comments regarding curriculum from Group B studies focused on alignment of curriculum to state standards. The similarity between these findings emphasizes the importance of schools' offering all students access to high level curricula that are aligned with state standards (and state assessments).

In addition to showing the assets of high-performing schools, the literature reviewed also identified challenges faced by them. Challenges raised in the Group A studies included lack of funding that threatens the delivery of services, personnel being stretched too thin and dealing with a plethora of paperwork, lack of long-term commitment from districts to programs (i.e., changing programs before seeing results), and the growth in the number of students with disabilities who also have limited English proficiency.

In the Group B studies, two challenges were mentioned. One challenge is student mobility, as each cohort of students is different and brings different needs that must be addressed by the schools; therefore, strategies that may be successful with one cohort may not work with another group. A second challenge is personnel mobility, as schools and districts must find ways to maintain continuity of leadership and high quality teaching.

(5) To what extent are these identified practices evidence-based?

Re-examination of the documents for the EBP criteria discussed in Section Two reveals that none of the findings qualify as strong evidence, according to the WWC (2010) criteria. No study adopted an experimental design, and few used a quasi-experimental design. Additionally, although the process by which the *high-performing* label was determined is quite clear in most studies, the methods for selection of schools to be visited and the processes of data collection and analyses are not so clearly presented (with some exceptions).

A comparison of findings from between studies also is of limited value because the studies used different measures of performance. The main indicator, and sometimes the only one, was results of statewide assessments. These assessments may vary considerably across states in content and/or depth of knowledge, even within the same school grade. Therefore, successful schools in one state may not be comparable to schools likewise classified as successful in another state with the use of a different assessment. More importantly, only three of the reviewed documents made an effort to compare and contrast alternative explanations regarding school practices. Without a comparison, it is not clear which practices may be exclusive to successful schools and which ones may be common to both high-performing and low-performing schools.

The fact that some school components (e.g. infrastructure) are described in one or two studies and not in the others does not mean that these components were not relevant. It simply means that the researchers either were not looking for them or did not see them for a variety of reasons: limitations in the conceptual framework used to collect and analyze the data, limitations

in the data collection process, or limitations in researchers' ability to observe and understand the complex world around them. Yet, within limitations, these studies provide important information about the organization and functioning of schools that help disadvantaged students achieve academic success.

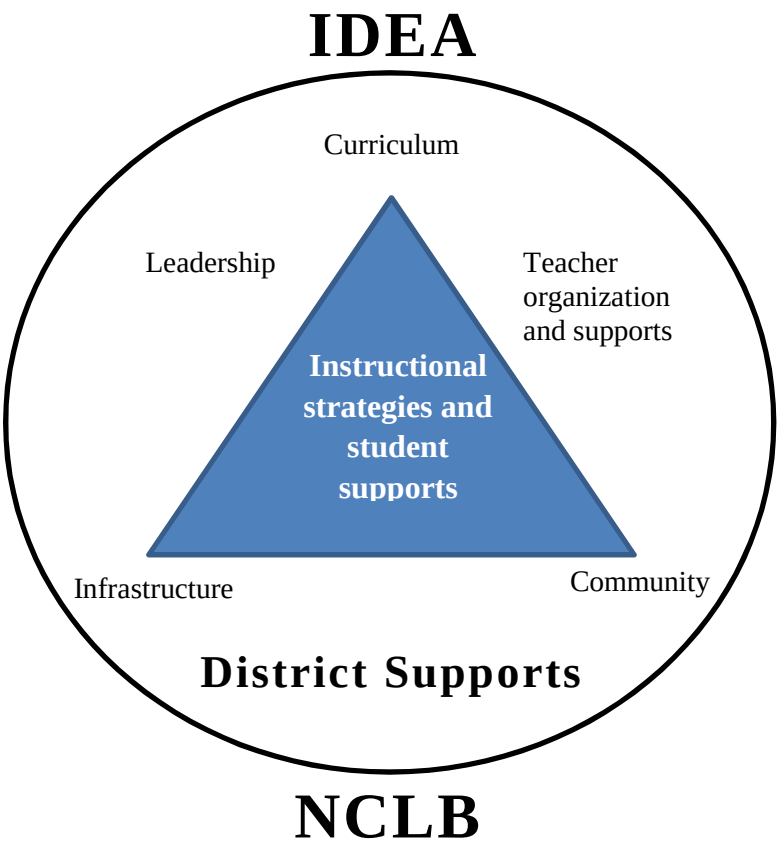
The First Steps of a Conceptual Framework

The five common findings in Group A and Group B studies suggest a framework by which to identify components of schools that may (or may not) be related to improved student academic achievement. As a foundation, researchers must identify the schools' defining principles; that is, the schools' educational ideology that inform their practices. Upon this foundation grow two pillars: school leadership and teacher organization. According to the literature findings, school leadership should focus on the teaching-learning dyad, and the faculty should be open to collaboration with each other. Ongoing and targeted professional development supports and ensures the quality of the teaching component of the dyad. For the learning component, three strategies appear relevant: (1) Students should be monitored frequently using a variety of measures, and teachers and principals should use the data collected to plan and modify instruction; (2) Students who are struggling academically should be supported to succeed in challenging courses rather than pulled out to remedial or foundation courses that may jeopardize their ability to complete college preparatory credits before graduation; and (3) Schools and districts should focus on maintenance of the alignment of their curricula with standards (state or home-grown) to ensure the quality of the program of studies offered to all students. Although district support was a finding only in the Group A studies, any research on public schools must take into account the role of districts in supporting or hampering school functioning. Figure 1 reflects an attempt to display graphically this incipient framework.

Certainly, other elements intervene in this initial framework and must be added to it, even if they are not highlighted in the literature. For instance, public school districts and schools must comply with federal legislation that influences both general (NCLB) and special (IDEA) education. Infrastructure, such as funding, imposes limitations on hiring of personnel, availability of resources, and the presence of a warm physical environment. The current literature suggests that these structural elements have little influence on schools' ability to excel. Yet an exploration of the impact of infrastructure did not appear to have been a focus of most of the

studies. Additionally, the absence of comparison groups makes findings more difficult to interpret.

Figure 1. Essential elements in the investigation of components of high-performing schools (initial proposal).



Despite the threat of ending this report with a cliché, the major finding from this review is that more research is needed that uses comparison groups and that is clear on the elements investigated (i.e., on the conceptual framework used). It is essential to know whether a component or characteristic of districts or schools is not mentioned because it was not investigated. It is even more important to understand whether or not the components observed in high-performing schools also are present in their low-performing counterparts. We hope that the OCECD Special Education Research Project, for which this review of the literature is a foundation, will further clarify this essential question that baffles educators and education researchers alike: What makes a school (or school district) successful in improving learning for all students, including students with disabilities?

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