

Beating the Odds

Learning From Grade K–8 Schools Outperforming Expectations for Students With Disabilities

JULY 2025



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Executive Summary

The PROGRESS Center (www.promotingprogress.org), a federally funded center focused on promoting progress for students with disabilities (SWD), investigated lessons learned from schools serving children in Grades K–8¹ that were beating the odds (BTO) for students with individualized education programs (IEPs) based on test scores from 2018–19 and 2021–22. This is the final stage of the PROGRESS Center’s work to identify the essential elements of a sustainable school system that leads to improved outcomes for SWD, which included working closely with 11 partnership sites; conducting extensive literature reviews; collaborating with over 60 Educators in Residence; evaluating and refining professional learning activities; and annually convening practitioners, policy makers, and researchers.

For the BTO analysis, we used a mixed methods approach to identify these schools and provide a comprehensive overview of the practices, programs, and policies in BTO schools that support high-quality instructional programming for SWD. The BTO analysis included two elementary schools (grades Pre-K–5 and K–5), two intermediate schools (Grades 3–5 and 4–5), and one middle school (Grades 6–8) in three states and the District of Columbia and included a variety of local contexts (urban, suburban, and rural). Data collected from special educators, general educators, school leaders, and district administrators provided insights into the school elements and facilitators contributing to their success.

Report Objectives

1. To examine the practices, programs, and policies in BTO schools that contribute to their success with SWD and identify the key elements of an effective system that supports SWD.
2. To provide recommendations for high-quality instructional programming based on current knowledge in the field and the perspectives of educators and school and district leaders in successful schools.

Our Approach

We used a mixed methods design, integrating both quantitative and qualitative data collection and analysis. The quantitative component included several phases. First, we identified a set of states where SWD made progress on the National Assessment for Educational Progress (NAEP) in recent years. In the next phase, we used school-level state assessment data and demographic data to identify schools where SWD outperformed similar schools within the same state. We conducted this analysis twice—using data from 2018–19 and 2021–22—to ensure accurate identification of schools likely implementing sustainable practices. The qualitative component

¹ One school additionally served pre-kindergarten, but this was not the focus of our analysis.

included focus groups and interviews with special educators, general educators, school leaders, and district administrators in BTO schools to gain insights into their experiences and perceptions of effective practices contributing to a successful school system.

Key Findings

The findings point to the positive impact of a cohesive school system that prioritizes five essential elements: student belonging, evidence-based general education instruction and supports, individualized instruction and supports, staff collaboration, and educator supports. The findings also suggest these five elements are supported by five facilitators: family engagement, high expectations, collective efficacy, strong school leadership, and data literacy. Key findings include:

1. Participants reported the benefits of a tiered system of supports (e.g., multi-tiered system of supports [MTSS]) that addresses the needs of all students, including students at risk for or with disabilities, noting the importance of adequate training, high-quality resources (e.g., evidence-based curriculum and interventions), positive school climate, and ongoing support (e.g., coaching and mentorship) for successful implementation.
2. Participants noted the importance of the five essential elements for a sustainable school system. Key emergent themes that demonstrate the integration of the five essential elements include (see Exhibit ES-1):
 - Supporting **student belonging** by removing barriers to access, fostering participation in extracurricular activities, and facilitating positive relationships with peers and adults.
 - Providing **high-quality core instruction and supports**—often within a tiered framework such as MTSS—by effectively leveraging instructional technology, planning for instruction (e.g., scaffolding), and teaching cognitive and metacognitive strategies to support student learning.
 - Providing **individualized services and supports** such as effective special education instruction, related services, and supplementary services and aids through the IEP.
 - Fostering **staff collaboration** through supportive structures such as master scheduling, intentional use of time, creativity, and flexibility.
 - Providing **educator supports** through both formal and informal mentorship, flexible (e.g., hybrid, multimodal, and “bite-sized”) professional learning, recognizing and celebrating staff, and generally building a positive culture.
3. Participants reported holding high expectations, a strong sense of collective efficacy, strong leadership, family engagement, and data literacy skills as factors that help facilitate



implementation of successful systems. These facilitators are interconnected and reinforce each other as well as the essential elements (see Exhibit ES-1). Key emergent themes include:

- Leading by practicing **distributive or shared leadership**, creating positive culture and healthy working conditions, and being responsive to needs of staff, families, and students.
- Developing and maintaining a strong sense of **collective efficacy** among staff to support collaboration and close achievement gaps.
- Maintaining **high expectations** for all students through strong leadership, ambitious goals, positive growth mindsets, and effective Tier 1 instruction.
- Building **data literacy** to inform individualized instruction, classroom instruction, and academic and non-academic supports.
- Increasing meaningful **engagement with families** by removing barriers, building personal connections, and using a variety of communication tools and technologies.

Exhibit ES-1. Essential Elements and Facilitators of a Sustainable School System That Promotes Progress for Students With Disabilities



Introduction

Schools often face challenges in effectively supporting students with disabilities (SWD) and need additional supports to identify promising practices, programs, and policies that may support progress for SWD. Although the Individuals with Disabilities Education Act (IDEA) requires that SWD receive a free appropriate public education (FAPE) in the least-restrictive environment (LRE), schools continue to grapple with how to best serve these students. As a result, SWD continue to lag behind their peers across a range of academic, graduation, and postschool outcomes (Arundel, 2022).

Following the U.S. Supreme Court's decision in *Endrew F. v. Douglas County School District* (2017), the U.S. Department of Education's Office of Special Education Programs (OSEP) funded the PROGRESS Center at the American Institutes for Research (AIR).

PROGRESS Center Goals

- Increase body of knowledge of current evidence-based practices (EBPs) and available resources for developing and implementing high-quality educational programming for SWD in kindergarten through transition age.
- Increase understanding and awareness among educators (special and general), leaders, related service providers, and families of the individualized education program (IEP) as a critical and valuable resource for ensuring that SWD are held to high expectations and are adequately supported to achieve them.
- Increase access to and use of the EBPs and resources that emerge from this center and our collaborative partnerships.
- Increase capacity to develop and implement high-quality educational programming for SWD among traditional public schools, charter schools, and non-public or private schools to improve school and post-school outcomes for SWD.

The long-term outcome of the Center's goals and activities was to identify the essential elements of a sustainable school system that leads to improved outcomes for SWD. From 2019–24, PROGRESS Center worked closely with 11 partnership sites; conducted extensive literature reviews; collaborated with over 60 Educators in Residence; evaluated and refined professional learning activities; and annually convened practitioners, policy makers, and researchers to identify the essential elements of a successful school system that promote progress for SWD. A multi-year beating the odds (BTO) analysis, which is the focus of this report, is the final stage of that work.



The [PROGRESS Center](#)'s BTO analysis and its findings provide clarity about what is necessary for creating sustainable school systems that ensure SWD can beat the odds and achieve expected school and postschool outcomes. This report shares our approach for and findings from the BTO analysis. It concludes with recommendations for educators, leaders, policy makers, and researchers.

Our Approach

The PROGRESS Center BTO analysis is a mixed methods positive outlier analysis of U.S. schools serving Grades K–8² in which SWD are outperforming expectations relative to observably similar schools in the same state. Through focus groups and interviews with special educators, general educators, school leaders, and district administrators from five of these BTO schools, we sought to learn: **what are the practices, programs, and policies that may be helping them to achieve success for SWD?** Similar to other BTO analyses, such as those conducted in [Georgia](#) and Oregon, we identified and then collected and analyzed data on schools that are outperforming expectations, relative to similar schools. Our analysis is also similar to a recent [study](#) from TNTP (2024), which identified and learned from schools in which students, on average, were performing below grade level and subsequently achieved significant amounts (more than 1.3 years) of learning per academic year. However, our analysis is unique because it focuses specifically on reading and math achievement of SWD, in particular.

We used an explanatory sequential mixed methods approach in which the qualitative phase explains results from a prior quantitative phase. We discuss our approach briefly here; for more details, see Appendix A.

Quantitative Data Collection and Analysis

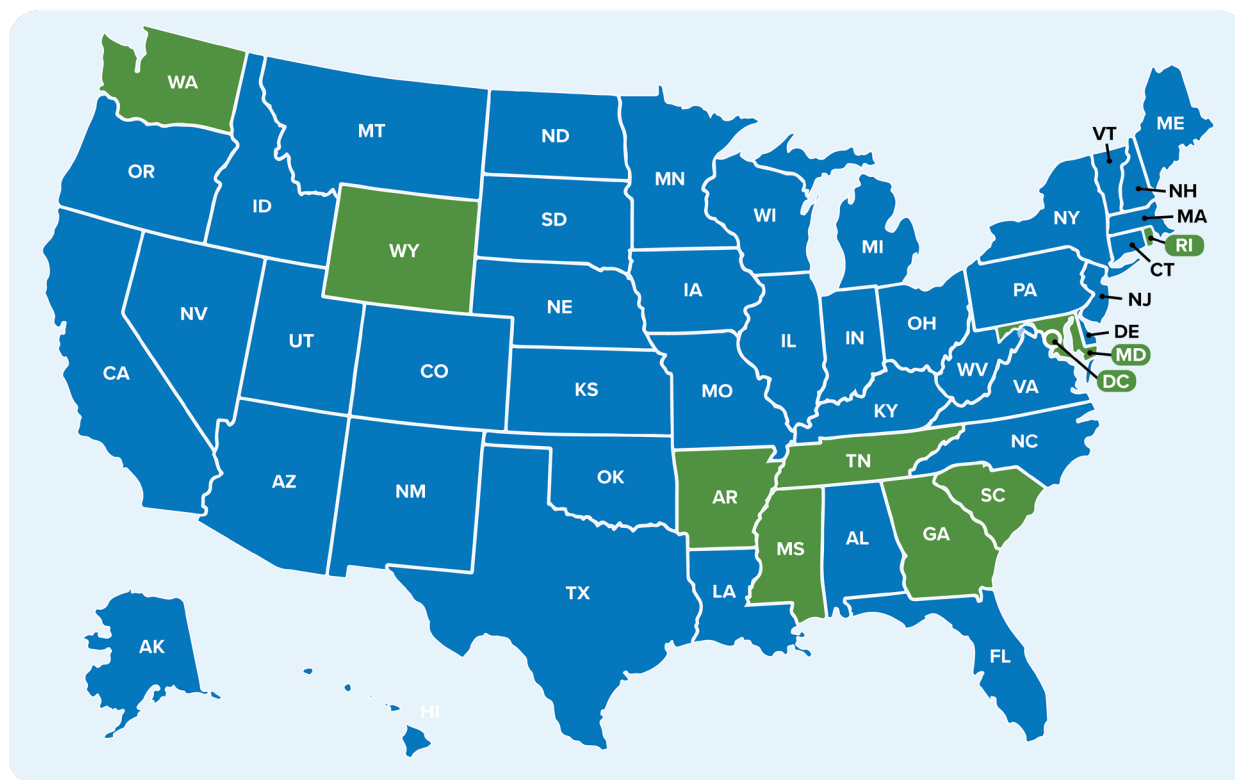
The quantitative component included several phases. First, we identified a set of states (Exhibit 1) where SWD have been making progress on the National Assessment for Educational Progress (NAEP) in recent years (specifically, states in which SWD performance increased between 2017 and 2019 in both Grades 4 and 8 and in both mathematics and reading). Then, we used school-level state assessment data and demographic data to identify schools in which SWD were outperforming those in similarly observable schools within the same state. This “positive outlier” analysis identified schools whose actual performance among SWD was higher than their predicted performance based on the results of multiple regression. As noted earlier, we did this step with assessment data from 2018–19 and again with assessment data from 2021–22 to

² One school additionally served pre-kindergarten, but this was not the focus of our recruitment or analysis.



ensure we identified schools more likely to be implementing sustainable practices associated with improved academic outcomes.

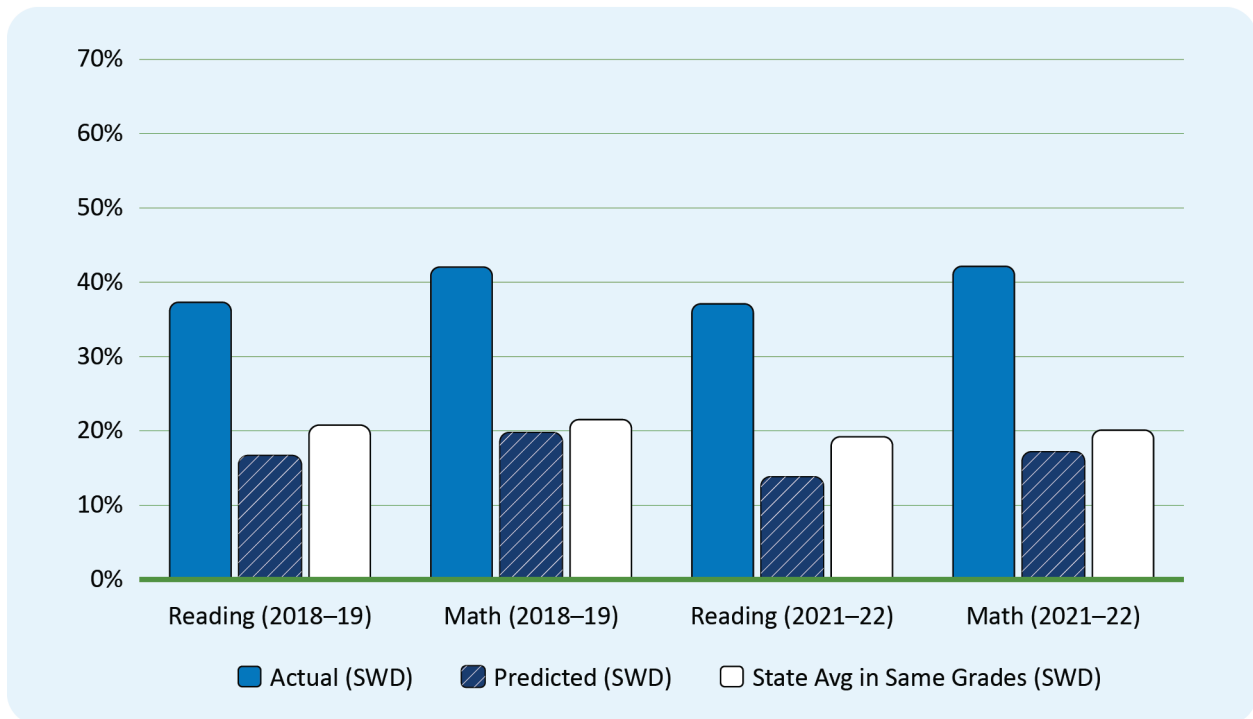
Exhibit 1. States Included in School-Level Beating the Odds Analysis Based on NAEP Reading and Math Performance



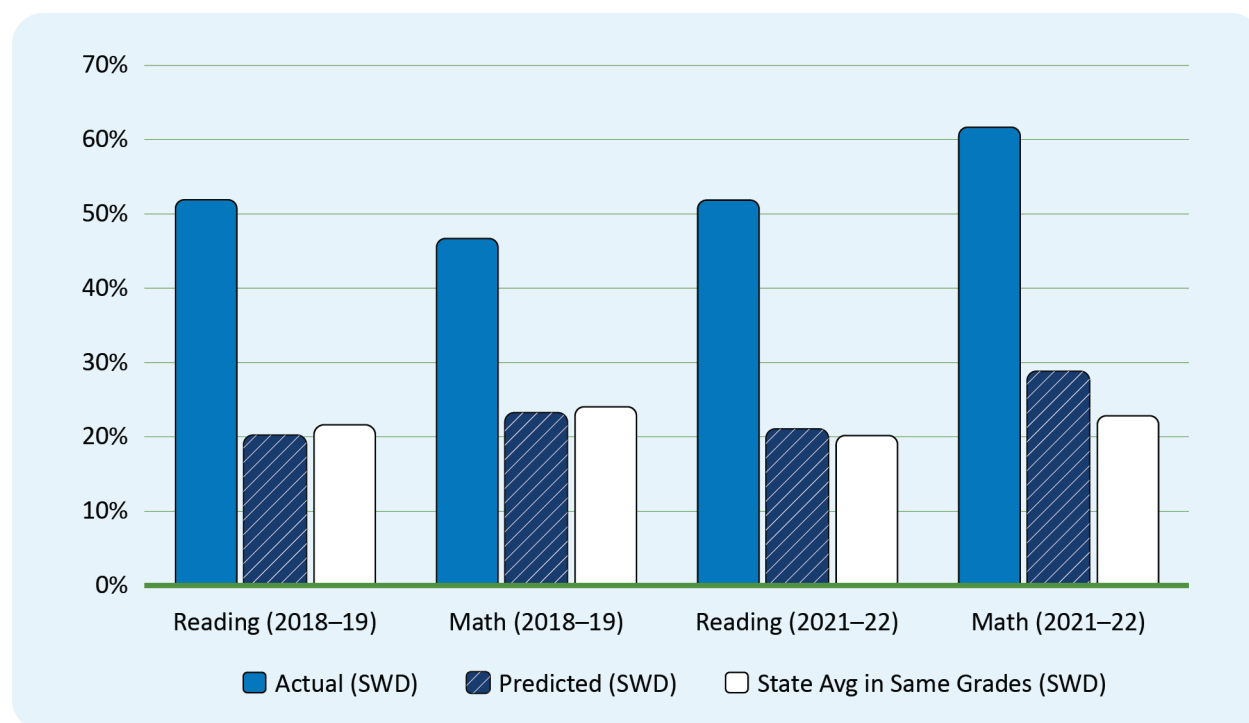
Note. NAEP = National Assessment for Educational Progress. States shaded green (Arkansas; Georgia; Maryland; Mississippi; Rhode Island; South Carolina; Tennessee; Washington; Washington, DC; and Wyoming) were included in our school-level quantitative data analysis. States shaded blue (the 40 other states) were not included.

As discussed in more detail in Appendix A, we identified BTO schools by identifying a predicted or expected performance level, given the demographic characteristics of each school in the state and then identified schools that were significantly outperforming those predicted or expected values. In other words, BTO schools had greater shares of SWD scoring proficient, relative to what we would expect based on their observable demographics (and they also happened to outperform the state average for SWD). Graphical depictions of the actual performance (percent proficiency for SWD), relative to the predicted/expected value as well as the state average in the same grade levels, are shown in Exhibits 2-6, for each of the five BTO schools selected for inclusion in this report.



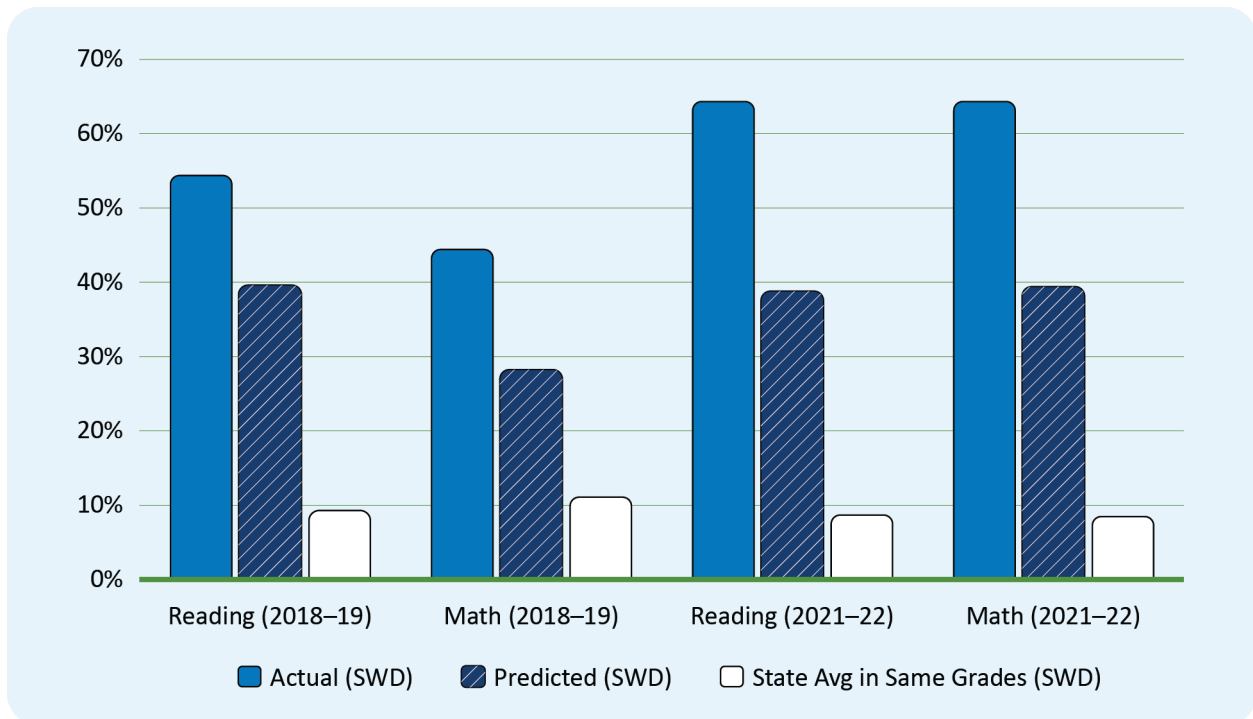
Exhibit 2. BTO School A: Comparison of Actual, Predicted, and State Average Proficiency Rates, Grades 4–5

Note. Predicted value is based on multiple regression methods as described in Appendix A. Schools were identified as “BTO” if they were one of the top performers in their state, relative to their predicted value. Specifically, we created lists of the top 20 schools in terms of the difference between their actual and predicted values. See Appendix A for more details. SWD = students with disabilities. Reading tests are inclusive of Reading and Language Arts.

Exhibit 3. BTO School B: Comparison of Actual, Predicted, and State Average Proficiency Rates, Grades 3–5

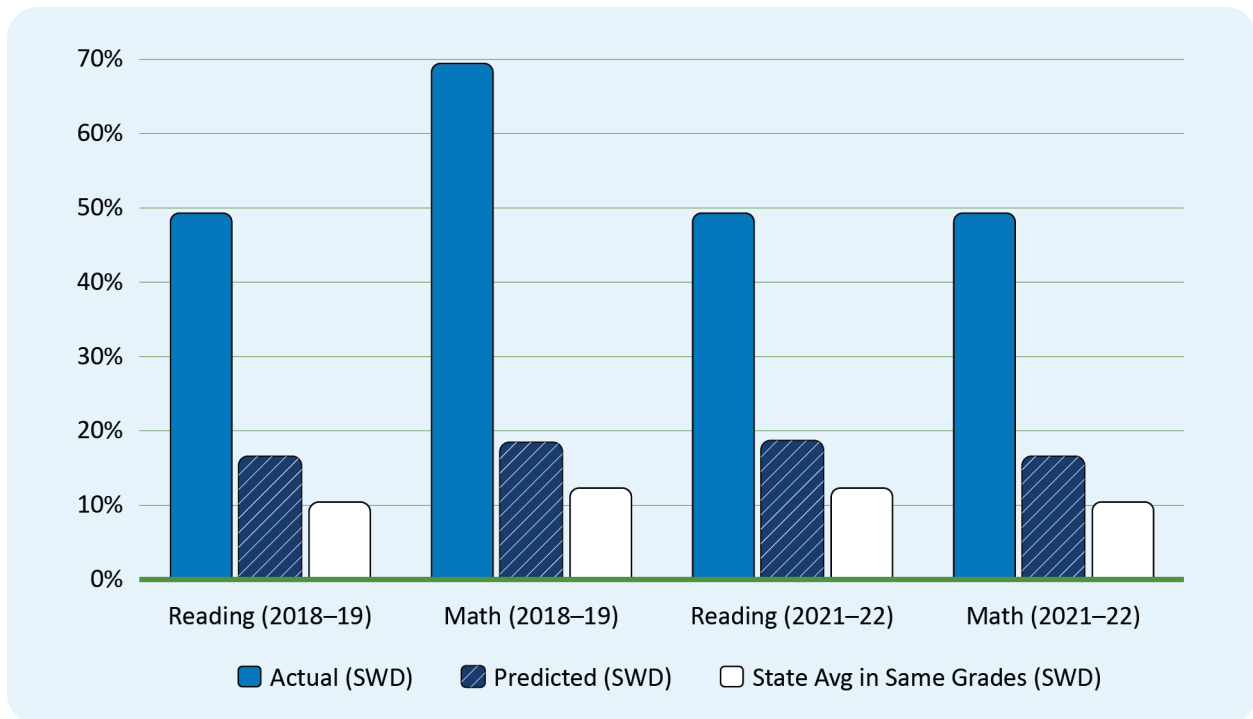
Note. Predicted value is based on multiple regression methods as described in Appendix A. Schools were identified as “BTO” if they were one of the top performers in their state, relative to their predicted value. Specifically, we created lists of the top 20 schools in terms of the difference between their actual and predicted values. See Appendix A for more details. SWD = students with disabilities. Reading tests are inclusive of Reading and Language Arts.



Exhibit 4. BTO School C: Comparison of Actual, Predicted, and State Average Proficiency Rates, Grades 3–5

Note. Predicted value is based on multiple regression methods as described in Appendix A. Schools were identified as “BTO” if they were one of the top performers in their state, relative to their predicted value. Specifically, we created lists of the top 20 schools in terms of the difference between their actual and predicted values. See Appendix A for more details. SWD = students with disabilities. Reading tests are inclusive of Reading and Language Arts.

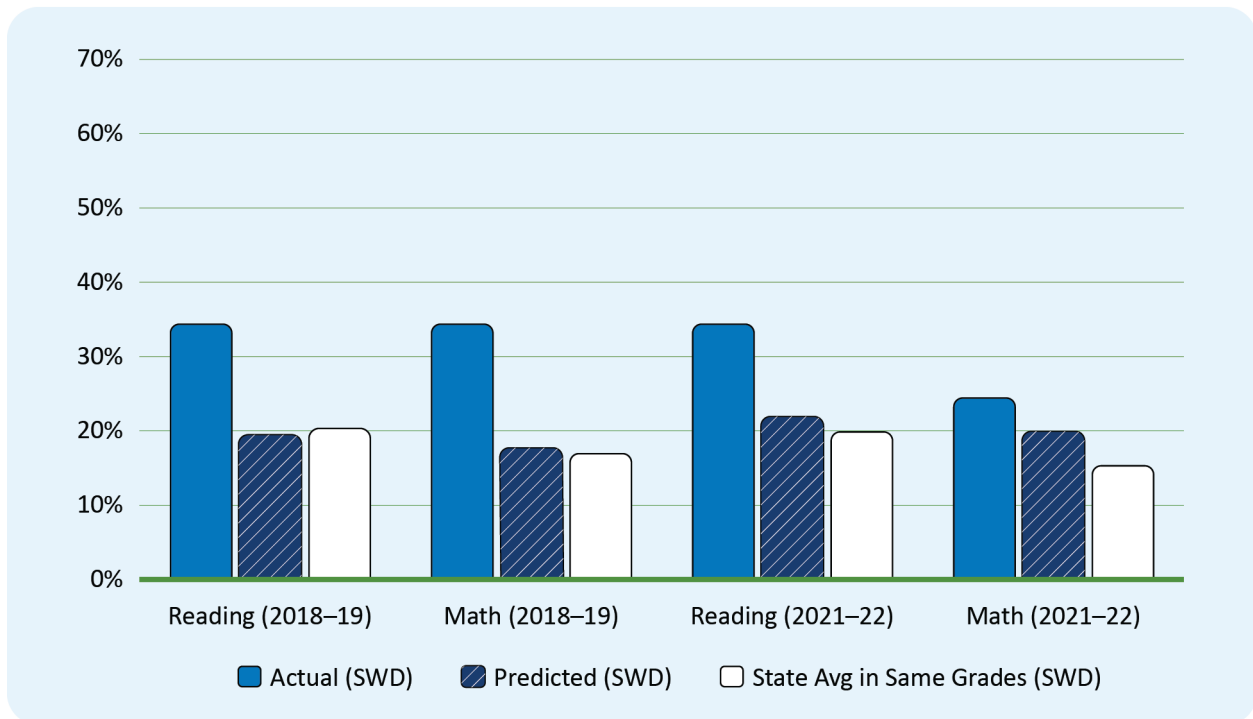


Exhibit 5. BTO School D: Comparison of Actual, Predicted, and State Average Proficiency Rates, Grades 3–5

Note. Predicted value is based on multiple regression methods as described in Appendix A. Schools were identified as “BTO” if they were one of the top performers in their state, relative to their predicted value. Specifically, we created lists of the top 20 schools in terms of the difference between their actual and predicted values. See Appendix A for more details. SWD = students with disabilities. Reading tests are inclusive of Reading and Language Arts.



Exhibit 6. BTO School E: Comparison of Actual, Predicted, and State Average Proficiency Rates, Grades 6–8



Note. Predicted value is based on multiple regression methods as described in Appendix A. Schools were identified as “BTO” if they were one of the top performers in their state, relative to their predicted value. Specifically, we created lists of the top 20 schools in terms of the difference between their actual and predicted values. See Appendix A for more details. SWD = students with disabilities. Reading tests are inclusive of Reading and Language Arts. School E’s math performance in 2021–22 was lower than in reading and in prior years, but they were still selected as a BTO school for qualitative data collection because they were in the top 20 schools in their state in terms of actual performance, relative to expectations, in three out of the four cases. See Appendix A for more discussion of the priority order in which schools were selected for qualitative data collection.



Qualitative Data Collection and Analysis

The qualitative component included interviews and focus groups with special educators, general educators, school leaders, and district administrators in five BTO schools to gain insights into their experiences and perceptions of effective practices that contribute to a successful school system. Among the set of 35 schools identified as BTO from our quantitative phase, we prioritized recruitment for qualitative data collection among a set of schools that were positive outliers in both reading and math, and in both 2018–19 and 2021–22, whenever possible. There were too few high schools that consistently outperformed expectations in both subjects and years, so we selected schools serving students from kindergarten through Grade 8³ from a variety of geographic contexts and regions of the country (see Appendix B for more details about the included schools).

The theoretical framework for the BTO was based on extensive literature reviews and PROGRESS Center’s work from 2019–24 conducted in partnership with schools and districts throughout the country to support the development and implementation of high-quality instructional programming for SWD (see Exhibit 7). This collaborative work included thought leader summits and forums with experts and stakeholders as well as focus groups with parents, families, students, and educators. Our focus group and interview protocol⁴ aligned with the framework and asked explicit questions about the five school-level elements described in Exhibit 8 and additional probing questions, as relevant, about the facilitators described in Exhibit 9.

Exhibit 7. BTO Theoretical Framework



³ One school additionally served pre-kindergarten, but this was not the focus of our recruitment or analysis.

⁴ Available from the PROGRESS Center by request. Please contact us at <https://promotingprogress.org/request-support>.



Exhibit 8. Essential Elements of a Successful School System Included in the BTO Theoretical Framework

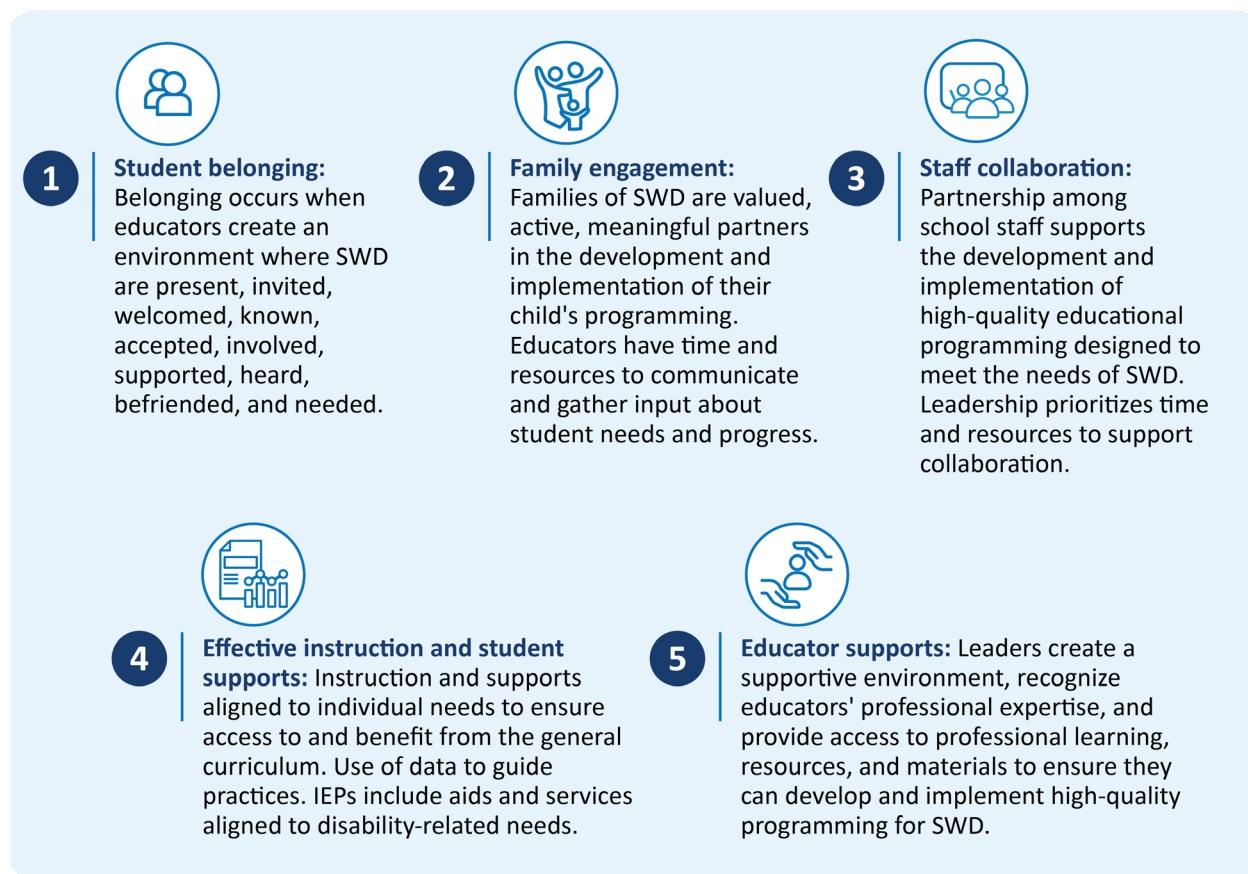
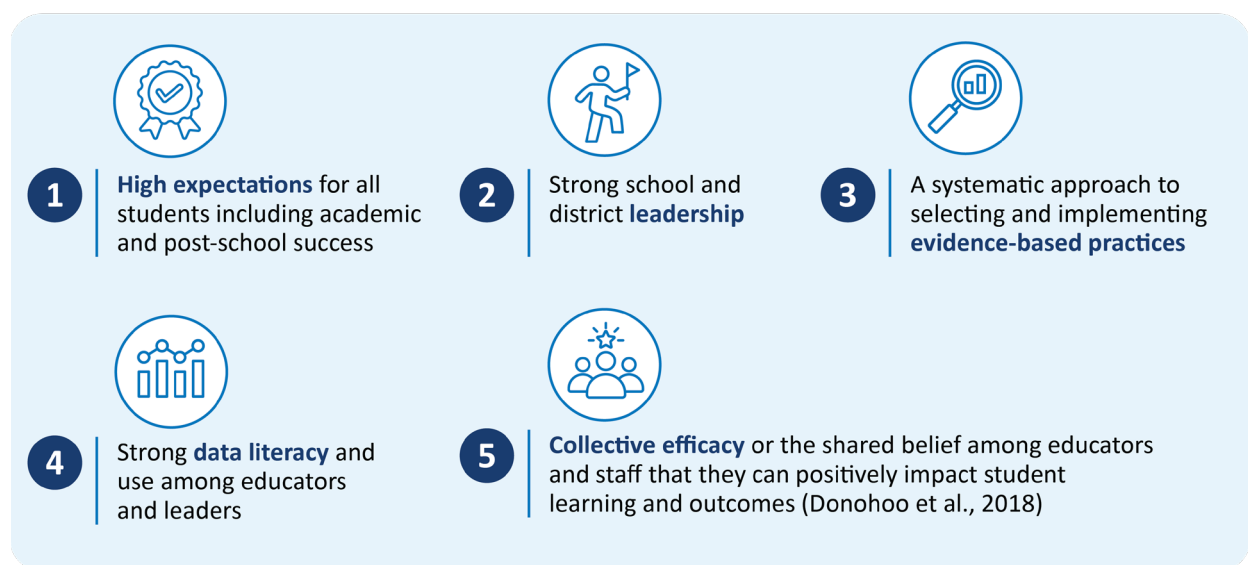


Exhibit 9. Facilitators of a Successful School System Included in the BTO Theoretical Framework



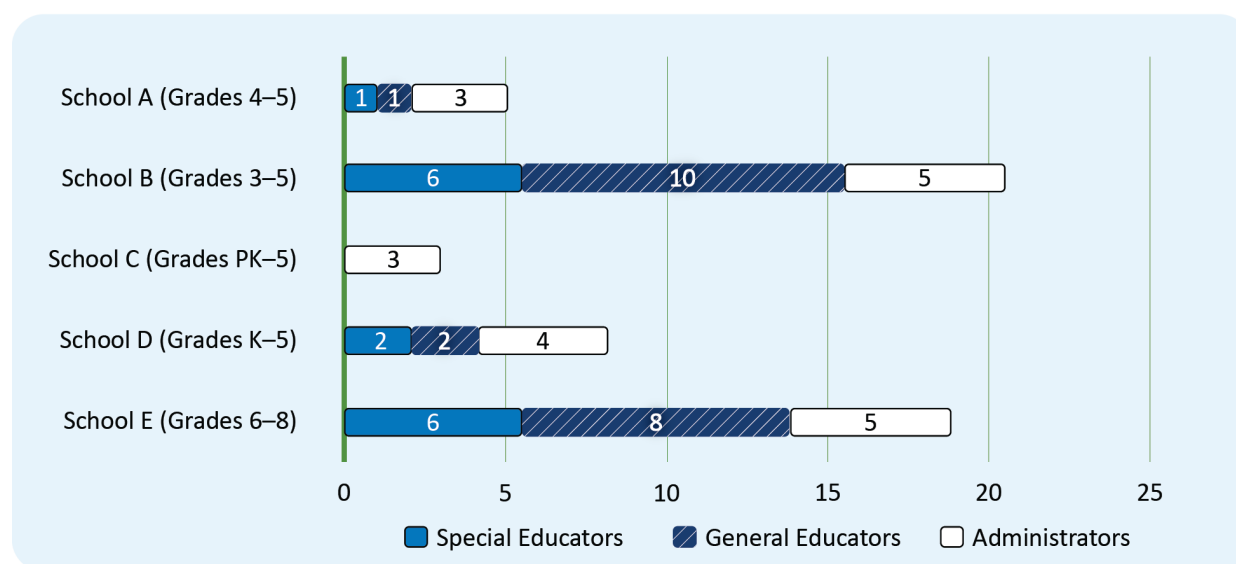
Limitations

This analysis has several limitations. Some states and schools were not eligible for inclusion in the quantitative phase because of missing data and other limitations. Further, when identifying schools for qualitative data collection and analysis, we prioritized recruitment of schools that were consistently identified as BTO across multiple years and subjects, but few middle or high schools met this goal. As a result, we had no high schools and only one middle school included in the qualitative data collection. Recruitment also posed several challenges that resulted in a smaller set of schools and participants than originally anticipated, with some data collection having to occur through one-on-one interviews instead of focus groups, as intended. Due to time constraints, our focus group protocol explicitly addressed five elements (Exhibit 8). Questions about facilitators (Exhibit 9) were less direct and often asked as follow-ups when time allowed. With more time, we could have explicitly asked about facilitators, as well. These and other limitations are discussed in more detail in Appendix A.

Characteristics of Focus Group and Interview Participants

In total, we conducted nine focus groups and six individual interviews across the five schools between June and December 2024, with a total of 56 participants (Exhibit 10).

Exhibit 10. Number of Participants by School and Role Type



Note. Number of sessions (focus groups and interviews, combined) differed by school. School A and School C each had only one session, School B and School E each had three sessions, and School D had seven sessions.

At the beginning of most of the focus groups or interviews, when time allowed, we asked participants to complete a Microsoft form asking for their demographic background and work experiences. Of the 47 respondents who completed the form (representing 80% of our total



participants), the majority were special educators (15), general educators (14), and administrators (12). The remaining respondents held various other roles including a counselor, an interventionist, a restorative practices coordinator, an executive staff member, a special education supervisor, and other types of educators. Eleven participants reported holding only general education licensure, four reported holding only special education licensure, and the majority reported holding multiple licensure types across general education, special education, administration, and other credentials. The participants were highly experienced, with 19 reporting 21–30 years of experience, 17 reporting 11–20 years of experience, and five reporting more than 30 years of experience. Only six reported less than 10 years of experience. Of the 47 respondents, 36 identified as women and 11 identified as men. The majority (38) identified as White and non-Hispanic or just White; eight as Black/African American and non-Hispanic, or just Black/African American; and one respondent did not report on race or ethnicity.

Findings

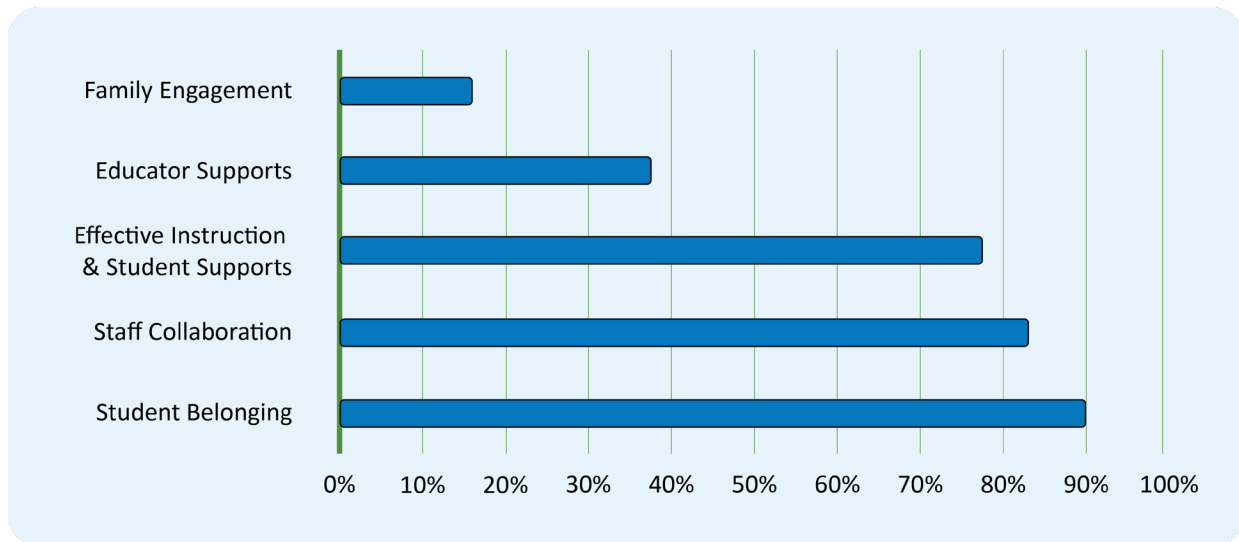
We present our BTO findings in two sections. First, we report on qualitative data—and to a lesser extent, quantitative data—related to the school system elements (modified slightly from those in the BTO theoretical framework). Second, we report on qualitative data related to the facilitators of these elements; or, in other words, the factors that BTO schools described as helping to support the elements and the system as a whole.

First, we report on select quantitative data collected during the focus groups with three of the five schools (Schools B, C, and E; see Appendix B for school-specific profiles). We asked: “Of the following factors, select the top 3 that align best with your school’s priorities or focus areas for supporting students with disabilities (SWD).” We offered as choices each of the five school elements included in our theoretical framework (Exhibit 8).⁵

Among the responses collected (Exhibit 11), the most common elements identified were Student Belonging (90.0% of responses), Staff Collaboration (82.5%), and Effective Instruction & Student Supports (77.5%). Responses by role type are in Exhibit 12, and responses by grade span are in Exhibit 13.

⁵ Sessions with the other two schools’ participants were conducted primarily individually and were of shorter duration, which was not conducive to collecting this polling data. All but one of the 40 respondents ranked their top three answer choices, as instructed, with one individual reporting four as their top priorities.

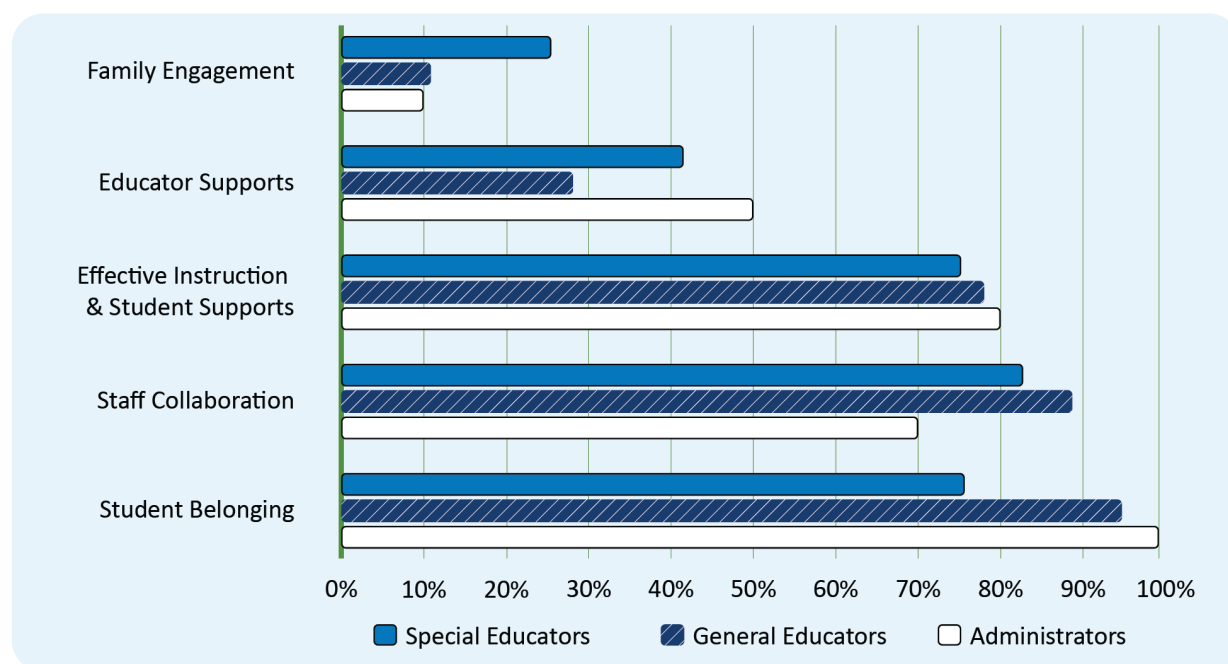


Exhibit 11. Percent of Respondents That Selected Each Element as One of the Top Three Priorities or Focus Areas for SWD in Their School

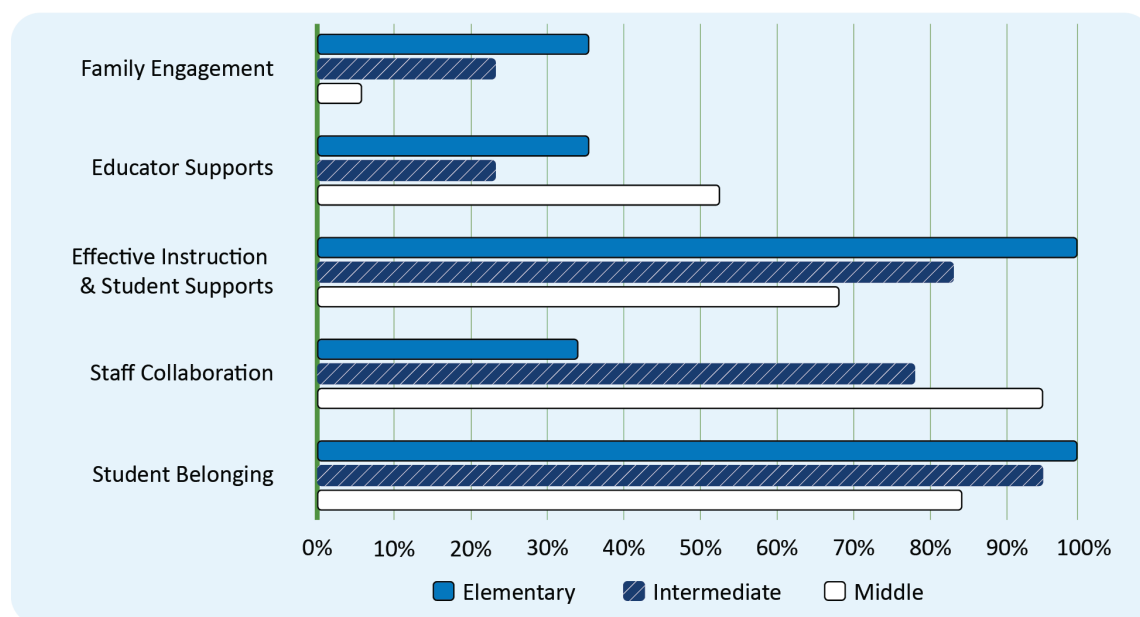
Note. Results of a polling question asking: “Of the following factors, select the top 3 that align best with your school’s priorities or focus areas for supporting students with disabilities (SWD).”

Special educators were less likely than general educators and administrators to rank Student Belonging in their top three but were more likely to rank Family Engagement in the top three. A lower percentage of middle school staff ranked Family Engagement and Effective Instruction & Student Supports as in their top three priorities, and a lower percentage of elementary staff ranked Staff Collaboration among their top three.



Exhibit 12. Participants' Top Three Priorities, by Role Type

Note. Percent of respondents that selected each element as one of the top three priorities or focus areas for SWD in their school, by role.

Exhibit 13. Participants' Top Three Priorities, by Grade Span

Note. Percent of respondents that selected each element as one of the top three priorities or focus areas for SWD in their school, by schooling level.



Elements of a Successful School System

We identified key findings related to five essential elements of a successful school system that promote progress for SWD: student belonging, evidence-based general education instruction and supports, individualized instruction and supports, staff collaboration, and educator supports.⁶ In the section that follows, for each of these five elements, we report on what is known from prior research as well as a few emergent lessons learned from the BTO analysis.

Student Belonging

Research indicates students learn best and are most successful when they feel welcomed and have a sense of belonging at school. SWD feel most included when schools create an environment in which they experience essential dimensions of belonging: being present, invited, welcomed, known, accepted, involved, supported, heard, befriended, and needed (Biggs & Carter, 2017). SWD report greater feelings of belonging when they experience positive social interactions with staff, particularly when teachers set high expectations, provide individualized support, and show patience (Shogren et al., 2015). Unfortunately, SWD often struggle to achieve the same level of belonging as their peers without disabilities (Biggs & Carter, 2017; Cerda et al., 2018; Cullinane, 2020; Nepi et al., 2013). SWD face barriers related to their placement in separate classes, fewer opportunities to participate in extracurricular activities, and difficulty building and maintaining friendships (Cullinane, 2020).

To help address these challenges, Cullinane (2020) recommended several strategies including interactive and strength-based teaching approaches; consideration of the potentially harmful effect of separate, self-contained settings as discussed by Barron et al. (2024) and Bunch and Valeo (2004); prioritizing student–teacher relationships; and supporting positive peer relations through group-work and shared experiences, access to extracurricular activities, and including students in decision making.

What We Found in the BTO Analysis

Removing Barriers to Access

Across all BTO schools, we frequently heard about their efforts to remove barriers and increase access for SWD to general education classrooms. At times, participants discussed their cultural norms of being a “fully inclusive school” or ensuring that “all students are all *our* students ... regardless of disability.” This translated into strategic decisions about educational setting placements as well as conscious efforts to include SWD with peers without disabilities. For example, a special educator in an intermediate (upper elementary) school mentioned having a

⁶ The five essential elements identified in our BTO analysis differ slightly from the five previously identified by PROGRESS Center (Exhibit 8).



buddy system for students in self-contained classrooms. This system promoted opportunities for SWD to be with peers at lunch, special events, recess, or other activities throughout the day.

Educators also used evidence to support their conclusions that staff have strong beliefs about all students belonging in the classroom. For example, an administrator from an elementary BTO school noted that 86%–87% of students were educated in inclusive classrooms, indicating “at least anecdotally that there is strong belief in the school that students should be working with their non-disabled peers.”

We are a fully inclusive school. We do not have a resource room. We don't segregate kids based on disability ... our special education team serves kids that do not have identifications as well. And, so the children with identification do not see themselves or others do not see them as being different from their peers.

This quote by an administrator in another elementary school as well as others demonstrated how educators' beliefs and actions related to access to the general education curriculum and peers without disabilities are important for fostering a sense of belonging for all students.

Fostering Engagement in Elective Classes and Extracurricular Activities

Administrators and special educators also noted school and district efforts to ensure engagement and participation of SWD in activities. For example, a middle school special educator highlighted how they “make it happen” if children want to participate in athletics or other activities, citing examples such as providing transportation and paraprofessional support.

Other schools emphasized the importance of activities for all students and set school-level participation goals (i.e., 95% participation). These schools “intervene” when needed to help students engage by creating clubs, identifying opportunities, and assisting with applications to participate in activities. An elementary administrator noted “no matter if they have a disability or not, they're led to feel important and a part of something.”

Facilitating Peer and Adult Relationships

Focus group participants spoke about their role in facilitating relationships among peers and between students and staff. In one school, this included starting each day with community circles. Another BTO school used “relationship mapping” to “know if every student from pre-kindergarten to 5th grade could identify at least one trusted adult” in the building. They found it “really revealing” to learn how students feel and to identify which children do not yet have a trusted adult in the building. Strong relationships are not just for classroom teachers; there was also an emphasis on leaders, such as principals, knowing every student's name and knowing



something about each student. By intentionally seeking to learn about students, the staff in these schools demonstrated a commitment to ensuring all students belong.

Evidence-based General Education Instruction and Supports

Evidence suggests that implementing evidence-based practices (EBPs) with fidelity is critical to move the needle for all students, and particularly SWD (Nelson et al., 2022). Yet, educators often struggle to identify EBPs, in part because of the confusing terminology used to describe practices, including scientifically based research, peer-reviewed research, and evidence-based practices (Cook & Cook, 2011; Zirkel et al., 2008). Further, educators often face challenges with implementation caused by the research-to-practice gap (Cook & Farley, 2019), limited opportunities to practice and refine skills (Cook et al., 2013; Smith et al., 2013), limited meaningful interaction between researchers and practitioners (Cook et al., 2013), and challenges with “scaling-up” interventions without sacrificing fidelity (Fixsen et al., 2013). Therefore, schools with effective systems are likely to have robust processes for identifying, implementing, and monitoring progress with EBPs to meet their students’ needs.

Research on high-leverage practices indicates some EBPs are particularly effective for SWD (Nelson et al., 2022). These practices include planning instruction and interventions with increased opportunities for students to respond (Common et al., 2020; MacSuga-Gage & Simonsen, 2015) and teaching cognitive and metacognitive strategies to address challenges with executive functioning that are common for many SWD (Hosenbocus & Chahal, 2012). These can include, for example, the use of graphic organizers and involving students in their own data collection and tracking progress.

Another important EBP is the intentional use of instructional technology, which has benefits including improved learning outcomes for SWD (Fernández-López et al., 2013; Hasselbring & Glaser, 2000). As with all IEP elements, educators should consider individual student needs when incorporating instructional technology into lessons and routines because some technology improves learning outcomes while other types may be distracting to students (Takacs et al., 2015). Although the use of learning accommodations may be necessary for SWD to access and make progress in the general education curriculum and make progress on their IEP goals, there is potential for negative social stigma associated with the use of accommodations that may deter use (Baker & Scanlon, 2016).

Evidence-based methods, strategies, and interventions with robust evidence of their impact are critical for effective instructional programming. Our theoretical framework originally included EBPs as a facilitator, and our coding strategy for EBPs was originally intended to focus on the processes, procedures, and systems used by BTO schools to identify and implement EBPs. However, due to limited direct questioning about EBP selection in particular, there was little



information that arose related to our original codes. The few general mentions of EBPs include having “research-based interventions that are used in small groups” or during pull-out, and that there is “research-based curriculum available at the Tier 1.” Given that EBPs were not mentioned frequently enough to stand alone as their own facilitator, we include the findings related to EBPs in this section.

What We Found in the BTO Analysis

Systematic Frameworks and Schoolwide Approaches to Identify and Address Student Needs

A recurring finding in our discussions with BTO school staff was the use of schoolwide systems and tiered frameworks (e.g., MTSS, Response to Intervention [RTI], and Positive Behavioral Interventions and Supports [PBIS]) to better support staff and students, including SWD. These schoolwide systems, while not specific to SWD, were reported as important for providing effective instruction and student supports, regardless of disability-related needs. Within these tiered frameworks, participants spoke about strategic use of paraprofessionals and implementation of strong Tier 1 instruction using instructional technology. For example, an administrator explained that “everything falls back on the bottom line of having good Tier 1 instruction.”

Learn more about MTSS. Visit the [Center on Multi-Tiered System of Supports](#) and the [National Center on Intensive Intervention](#) to learn more about MTSS and access free resources to support implementation.

Planning for Instruction and Intervention (e.g., Scaffolding and Opportunities to Respond)

Educators at an elementary BTO school recognized that many students have language-based learning difficulties affecting their participation in classroom discourse. To address this, they launched a schoolwide initiative to increase opportunities to respond through scaffolded supports such as “turn and talks,” allowing students to rehearse and hear ideas before sharing their own. This school also scaffolded using sentence stems and sentence frames. As one participant explained, the point is about “ensuring that they have the language to be able to communicate and share, articulate their thoughts, and meaningfully participate in class.” This proactive planning supported language and vocabulary development to improve student engagement and outcomes.

Using and Teaching Cognitive and Metacognitive Strategies

Educators across most of the BTO schools described using graphic organizers or chunking strategies, which are powerful ways to address executive functioning needs by teaching students how to plan, organize, and make progress on a task.



Further, many of the BTO schools taught students to set appropriate goals and monitor progress toward those goals. At an intermediate school, an administrator shared that students “can quickly tell you, ‘Hey, you know this is my goal, and I hit my goal.’ You know that kind of gives them that, you know, self-assurance that it is obtainable.” An elementary principal shared that to engage students, the district shares benchmark assessment and progress monitoring scores with their students. The principal explained that students’ individualized growth target is “a big deal to us” and that they “place a lot of weight” on individual growth, so they involve students in monitoring progress toward these targets. Notably, this leader emphasized that this is different from simply tracking how many students are meeting a “county standard,” emphasizing student-centered growth over other achievement metrics.

Learn more about teaching cognitive and metacognitive strategies. Access a brief [summary of relevant research and recommendations](#) and an [online learning course](#) from the PROGRESS Center.

Incorporating Instructional Technology

Not surprisingly, BTO schools reported the use of a variety of instructional technologies to increase access to the general education curriculum for SWD. Many schools across the U.S. provide 1-to-1 access to a computing device. At one elementary BTO school, all students in Grades 3-5 had access to their own device, and SWD were trained to use speech-to-text and other literacy technology tools. Educators at this school did not assume that students, as digital natives, could navigate technology without support. The training was a crucial support that enabled SWD to independently use technology-based accommodations and access the curriculum and instruction.

Importantly, BTO schools focused on addressing individual student needs while reducing the impact of negative stigma for SWD. For example, a middle school special educator explained that they individualize technology for SWD in general education using “accommodations that match the student’s disability” rather than a one-size-fits-all model. At the same time, they normalize the use of instructional technology as much as possible by allowing all students to use technology.

Learn more about instructional technology. Visit the PROGRESS Center for free resources including a brief [summary of relevant research and recommendations](#) and an [online learning course](#).



Individualized Instruction and Supports

For SWD to make progress in the general education curriculum and achieve school success, research indicates they need high-quality instruction in the general curriculum along with individualized “special education and related services and supplementary aids and services, based on peer-reviewed research to the extent practicable” [IDEA, Sec. 300.320 (a)]. The IEP outlines several types of services and aids including:

- [Special education](#) which means specially designed instruction (SDI), at no cost to the parents, to meet the unique needs of SWD, including instruction in the classroom, at home, or in other settings.
- [Related services](#) that include transportation as well as other developmental, corrective, and other supportive services required to assist a SWD to benefit from special education.
- [Supplementary aids and services](#) which means aids, services, and other supports (e.g., accommodations) that are provided in general education classes, other education-related settings, and in extracurricular and nonacademic settings.
- [Program modifications or supports for school personnel](#) necessary to effectively implement the IEP.

Individualized instruction and supports may be supported through the use of evidence-based and [high-leverage practices](#) (Council for Exceptional Children, 2024). For example, educators may engage in a validated process, such as [data-based individualization](#), to make decisions about adaptations to the instructional content, methodology, and delivery (Lemons et al., 2017).

Learn more about high-leverage practices for students with disabilities. Visit the [CEEDAR Center](#) to learn more and explore related resources.

What We Found in the BTO Analysis

Identifying, Providing, and Monitoring Individualized Instruction and Supports

Participants discussed methods for providing SWD with individualized supports and intensive interventions, emphasizing the role of data in decision-making. Both general and special educators in School D (Exhibit B4) noted that pull-out interventions were sometimes necessary, with special educators giving specific reasons for their need. For example, a phonics intervention pull-out was needed because the general education classroom environment was sometimes too “loud.” With regards to monitoring individualized instruction, a special educator in this school described collecting data for 6 to 8 weeks on specific behavioral skills (e.g., problem solving and coping skills to reduce stress or tension).



While School D highlights some specifics around individualization, in many other schools, the data we collected about individualization was more general or vague (e.g., general mentions of use of progress monitoring, accommodations, modifications, and related service providers). In other schools, individualization was still described as a schoolwide effort (e.g., a “What I need” [WIN] period) for remediation, intervention, and enrichment that nearly all students have access to across grade levels.

Learn more about Intensive Intervention. Visit the [National Center on Intensive Intervention](#) to learn more about intensifying intervention using the data-based individualization process and access free resources to support knowledge development and implementation.

Integrating Assistive Technology

Focus group participants indicated that integrating assistive technology was important for SWD to access the general curriculum and effective instruction. Some teachers in BTO schools referred to specific assistive technology outlined in a student’s IEP; some shared how they made some types of technology available for all students to promote student belonging. Participants in an intermediate school shared three examples of how all students access technology: (a) classrooms where all students wear headphones so that SWD do not feel “outcasted,” (b) a speaker system that supports a student with a hearing impairment and also helps other students hear better, and (c) 1-to-1 devices like iPads that make it easier to deliver modified instruction, materials or assessments, ensuring SWD are “just accessing it the same way everybody else is.”

Educators in BTO schools also proactively used time-saving efficiencies because they are pulled in multiple directions throughout the day.

[Our inclusion teachers] record audio ... so let’s say my inclusion teacher’s out that day or she’s already working with a different grade having to do their assessments. My students can just put their headphones in [sic] and listen to the recording of the assessment.

This quote demonstrates how schools can provide accommodations in ways that are efficient and scalable across multiple students.



Learn more about Inclusive Technology. Visit the [Center on Inclusive Technology & Education Systems](#) for free resources and to learn more.

Leveraging Paraprofessionals

Across schools and grade levels, focus group participants reported leveraging paraprofessionals as a critical part of the team working with SWD. They emphasized ensuring students can fully engage and participate in academic and other activities, such as physical education and extracurriculars, along with their peers. Notably, some participants described paraprofessionals as resources that support the active engagement and self-regulation of students both with and without disabilities, and as particularly effective when they provide support without “hovering” over students. Paraprofessionals in these schools are important for providing the types of intensive interventions and support necessary to help SWD progress. A middle school administrator described their staffing approach of “flooding the classroom with support” as “a tremendous asset.” This administrator hired additional staff support, explaining that “it’s not uncommon to see a 3-to-1 [child-to-staff] ratio.”

Staff Collaboration

Research suggests that schools in which SWD are successful create partnerships among general and special educators, administrators, and related service providers that support the productive development and implementation of high-quality educational programming designed to meet the needs of SWD. Schools with greater staff collaboration have better academic outcomes, less teacher turnover, and stronger social connections among faculty (Goddard et al., 2007; Schleifer et al., 2017). When general educators have opportunities to collaborate with special educators, they are more likely to see supporting SWD as a shared responsibility and view special educators as partners and critical sources of information (Sundeen, 2022). Collaboration does not just happen on its own—it requires intentional support from school leaders. For example, lack of time is a commonly cited barrier to collaboration (Lawrence-Brown & Muschaweck, 2004; Wilson, 2016), so leaders can demonstrate the importance of collaboration by aligning master schedules to allow for intentional, collaborative meeting time (Berry et al., 2009).

What We Found in the BTO Analysis

Building and Supporting Structures That Support Collaboration

Across all the BTO schools, a common theme was the use of structures to support collaboration among staff. These educators highlighted intentionality in providing regular (e.g., weekly) time for co-planning so that general and special educators could work closely together. In some cases, participants noted this shared planning time also included administrators, school counselors, and other support staff. Professional learning communities (PLCs) were also



mentioned, specifically in conversations with three of the BTO schools, as important for planning and discussing potential interventions and instruction, with special educators intentionally included along with other educators.

Participants emphasized that common planning time was a priority. An elementary administrator described a “structure of strong collaborative planning” where finding coverage was prioritized so staff could attend these sessions. In BTO schools, this collaboration time was supported by intentional and flexible master scheduling. For example, a special educator from an intermediate school noted that “schedules are kind of tricky” and may need to change yearly to year to ensure students with disabilities “get what they need.”

Being Intentional With Time Together

Another common theme across BTO schools was the importance of setting clear expectations for collaboration time. To be effective, they defined what would be accomplished, what topics would be discussed, and how the time would be used. One participant described that “we work closely with our office of curriculum and instructional programs to help schools understand how to use that shared planning time and how general educators and special educators should be using that time together.”

One administrator described how there were clear expectations for meeting time: “... any given day, [another administrator] and I could walk into these team meetings. ... We know there’s an expectation [of] what work should be done.” An elementary administrator similarly explained expectations for what was happening weekly in team meetings: “Weekly, we ... look at the tier levels of supports that are being provided, and the needs that exceed those tier levels, and make plans for those kids in terms of how they’re going to proceed.”

This underscores that collaboration should be intentional and purposeful, and that leaders can help set expectations for collaborative time among staff.

Collaborating Creatively

In addition to intentional planning for shared collaboration time, participants also expressed being creative to find other times and places for collaboration, whenever possible. Some explicitly mentioned the role of “positive culture” and an “open-door policy” that made it easier to solve a challenge at any time during the day. One participant said: “We just welcome communication [at] various times, all times throughout the day.”

There was recognition that staff needed to be flexible due to competing demands on educators’ time. Limited formal co-planning time means collaboration opportunities must also include those that are informal, less structured, and impromptu. For example, a special educator said



their school staff share information and collaborate asynchronously via Google Docs (that is, shared online documents).

I run a daily document with the regular education teachers ... it's a shared document. ... So, if they have concerns or questions ... we don't have to try and find each other in the hall and have a conversation because that's hard to find a place to talk about kids sometimes.

An elementary teacher also shared: “Quite honestly, a lot of times ... we’re finding each other at lunch, before school, after school. We’re sitting down, we’re talking in the hall. But there is collaboration.” This demonstrated commitment to finding ways to collaborate, even when time was a constraint.

Educator Supports

Educator supports like professional development (PD), resources, and materials focused on developing and implementing high-quality instructional programming are crucial. Successful schools provide a supportive environment that values all educators’ expertise and offers the time and resources needed to continuously improve instructional practices and data-based decision making. However, in many schools, special educators are responsible for multiple subjects, grade levels, and students with a wide range of needs, and they often report lacking time to handle these complex demands (Bettini et al., 2017). Research related to special educator attrition and retention reveals that these, and other poor working conditions, are among the most important factors influencing whether teachers left or intended to leave their jobs (Berry, 2012; Bettini et al., 2017; Hagaman & Casey, 2018). Targeted PD is essential for enhancing the skills of all educators, administrators, and related service providers to support SWD.

Learn more about ways to support educators. Visit the [PROGRESS Center](#), [National Center on Intensive Intervention](#), [Lead IDEA](#), and the [IRIS Center](#) for free educator supports, including online learning courses, training videos, implementation resources, and coaching tools.

What We Found in the BTO Analysis

Participants in our focus groups and interviews commonly noted challenges like limited resources, burnout, and staff shortages. With additional resources, they indicated they could support smaller class sizes, provide more manageable caseloads for special educators and counselors, enhance collaboration between general and special educators, and continue offering targeted PD opportunities. Despite these challenges, BTO schools reported using a variety of techniques to support staff, address burnout and shortages, and increase opportunities for staff to feel successful.



Fostering Mentoring Opportunities for Novice Educators

Participants discussed the role of mentoring for relatively novice (e.g., first- to third-year) teachers. Some of this mentorship support was provided through formalized mentoring programs for special educators (e.g., through a state education agency) and included virtual meetings, trainings, and assignments. Mentoring also included frequent, informal touch points. For example, a general educator in an intermediate school described a mentoring program (separate from the state-run program offered at their school) as an opportunity to “talk about things that are essential to the teaching process,” including basics such as where things are physically located in the building and when it is appropriate to call parents. This was described as “very effective” in addressing new teachers’ questions, even with short 15- to 20-minute meetings.

Offering Hybrid Professional Learning Opportunities Using Multimodal Delivery and “Bite-Sized” Learning

Professional learning comes in various forms, and participants valued the flexibility to choose their own path, including bite-sized learning in different modalities. Educators appreciated the ability to select from a list of opportunities and access learning virtually or via recordings. Bite-sized learning (e.g., book studies, podcasts, mini-lessons, mini-PD, and condensed versions of books) was seen as valuable for reframing mindsets, sharing cultural expectations, and continuous learning. One participant also described the value of opportunities for staff to present on various topics and highlight “unique things that they do in their classroom,” which allows staff to see their peers “in a different light.”

An administrator from another school described a similar approach, referred to as a “spotlight moment,” in which staff shared information on topics they considered valuable for other educators—and even students and parents—to hear, “whether it be technology-wise, instruction-wise, or something that’s just good for our students or for our parents to see.” These examples highlighted how flexibility and ownership in PD created novel opportunities for staff to learn and engage with one another and extend learning to the broader school community as well.

Recognizing and Celebrating Staff

Beyond professional learning, a key type of staff support in the BTO schools was recognition and celebration of staff efforts and successes, which builds a sense of collective efficacy.

Even for our staff, building that muscle ... like, our staff are doing great things. And what are the things that we’re going to celebrate this year? We’ve done some walks with some of our district leaders. So not only saying, here’s the priority, but we’re gonna come in and we’re gonna



celebrate the strong community circles that you have, we're gonna celebrate the fact that you really moved to have needs-based small groups.

This elementary administrator's reference to "building that muscle" seems to reflect an understanding that continued collective efficacy is supported by ongoing recognition and celebration of specific successes.

An administrator from an intermediate school explained how other leaders recognize teachers, including by providing food, celebrations, and opportunities to connect and relax throughout the year. This administrator linked these celebrations to staff well-being, noting that "mental care is just as important as making sure that we have everything academically for students ... we have to take care of ourselves first." This leader described celebrations as opportunities for the staff to bond, grow relationships, and "be family," and as instrumental to retaining teachers.

General educators in the BTO middle school (serving Grades 6-8) described how administrators celebrated their successes: "[School leaders] celebrate our success and do lots and lots of team building and morale building. This is a place where celebration is a priority." Recognition of staff effort translated into tangible benefits, such as "30-minute out cards," which may be used to leave 30 minutes early on a Friday, for example. This was described as important for mental health and self-care.

Building Positive Culture and Enjoying Work

While less tangible than staff recognition, a recurring theme from BTO schools was the positive impact of school climate and culture, and of staff enjoying working together.

We have talked a lot about systems, and we've talked a lot about, you know, the details of what goes into a day. But, I would also just say that none of that works if the culture does not support it. And the culture that we define is the adult behaviors in the school.

Similar to this middle school administrator, participants from multiple BTO schools described their staff like "family" or as "such good friends." Some participants described the climate in their school as healthier than other places they have worked, and that people were genuinely happy to work there.

Facilitators of Implementation of Essential Elements

Our focus group and interview protocol centered on system elements previously identified by PROGRESS Center as crucial for supporting progress for SWD (Exhibit 8). However, we were also



interested in the factors that facilitate and support these system elements (Exhibit 9). The remainder of this section discusses the findings related to the five facilitators that emerged from our analysis.⁷ As discussed previously, EBPs were included as a facilitator in our theoretical framework but given the limited data that spoke directly to EBPs, we included discussion of them primarily within the element of Evidence-based General Instruction and Supports. Further, although Family Engagement was highlighted as an essential element in our theoretical framework (see Exhibit 8), our findings related to family engagement did not provide strong support for family engagement as its own distinct element. Rather, family engagement was primarily discussed as a facilitator supporting the essential elements, so we include it here as such.

Family Engagement

According to research, a genuine school-family partnership is built on shared understanding, goals, and responsibilities. Meaningful family engagement occurs when families of SWD are valued and active partners in their child's educational programming. When families are more involved in their child's school, the child's engagement, motivation, and academic outcomes improve (Barger et al., 2019; Chang et al., 2022). While IDEA requires collaboration between schools and families to ensure that SWD have access to equal educational opportunities, partnerships often fall short as educators report feeling inadequately prepared, and families of SWD face greater barriers to involvement than families of students who do not have disabilities (Fishman & Nickerson, 2015).

What We Found in the BTO Analysis

Exhibit 11 shows that Family Engagement was reported less frequently as a top three priority than the other elements in our theoretical framework. This does not weaken its significance but rather shows that schools prioritized the other elements more. Our findings suggest that family engagement does not exist in isolation; it is embedded across and facilitates other elements. As a result, although family engagement was previously identified by the PROGRESS Center as an essential element (Exhibit 8), the BTO analysis suggests it should be considered a facilitator instead. Next, we discuss qualitative data on family engagement, focusing on methods for overcoming participation barriers and building personal connections to reach families wherever and whenever it is needed.

Removing Barriers to Participation

Participants recognized that engaging families requires removing barriers by offering flexible meeting options (e.g., in-person, virtual, or hybrid) as well as providing transportation,

⁷ The five facilitators identified in our BTO analysis differ slightly from the five previously identified by PROGRESS Center (Exhibit 9).



interpreters, food, and childcare. One participant mentioned their school offers volunteer opportunities, including outside school hours and take-home projects, to enable parent engagement whenever possible.

Similarly, an elementary administrator described prioritizing deeper engagement with families whose first language is not English. Previously, families with interpreters sat isolated from the group and struggled to hear. To address this, the school invested in audio devices and a microphone with a transmitter, allowing families to sit with the group and still hear the interpreter.

The same participant described how the benefits of providing transportation, childcare, and evening meals outweigh the expense: “So it comes with a cost, but it’s well worth the expense of ensuring that families are able to come.” With these barriers reduced, staff are able to “take some pressure off of families ... so [they] can focus on information that’s being shared.”

Relatedly, school conferences are a key touch point for families, especially for families of SWD, but scheduling can be challenging. An elementary general educator explained how they prioritize outreach to accommodate families of SWD, allowing them to schedule conferences for all their children—both SWD and not SWD—at their preferred time, before offering remaining times to other families.

Building Personal Connections

While the examples above show how BTO schools remove barriers to participation, they also show how educators can intentionally build connection through regular, positive interactions with families. A middle school special educator noted that effective family engagement for some students may involve daily phone calls or texts to parents. Other educators also emphasized the importance of proactive and positive outreach before issues arise.

One BTO school engaged families by busing staff into neighborhoods to meet with families, calling it an “initiative of inclusivity.” A participant described the process: “The entire staff got on a bus, and we went through the neighborhoods... we spent a significant amount of time with our families.”

Using a Variety of Communication Tools, Technology, and Times

Focus group participants described various ways they communicate, using different types of tools, resources, and technology for ongoing engagement, as well as hosting specific events for families. For example, staff explained how they provide resources such as a “Special Education Cottage” or “Family Support Center,” use newsletters and pamphlets for information, offer tours and host events for families to see the school, and “welcome [families] with open arms.” One



participant described how their “Family Support Center” helps parents navigate challenges with the IEP process.

Participants highlighted how technology supports family engagement through various means, including email, social media, newsletters, and applications like ClassDojo, Parent Square, or Remind that facilitate both private messages and general updates, with translation available in many languages.

Further, some BTO schools offered events to help support SWD in particular. A special educator described how topics for family engagement nights are determined by parent needs or by issues that arise through the Parent–Teacher Association. Some events (e.g., a Special Education Night) were focused on sharing information through presentations, while other events were focused on fun and engagement.

Strong School Leadership

Research suggests that building leaders, such as principals, are crucial in shaping the vision and culture of a school. They model positive mindsets, hold high expectations for all students, and foster collaboration to support SWD (Council of Chief State School Officers and CEEDAR Center, 2017). Further, as instructional leaders, principals must recruit, develop, and retain effective special educators. Principals primarily influence student outcomes through their effects on teachers’ learning, motivation, and working conditions (Louis et al., 2010; Robinson et al., 2008). According to research, many school leaders are not prepared to manage special education programs because they lack the knowledge about and experience with SWD or special education law and policy (Angelle & Bilton, 2009; Garrison-Wade et al., 2007; Lasky & Karge, 2006; Styron & LeMire, 2009). These researchers attribute this in part to principal preparation programs that fail to provide adequate training in these areas.

Learn more about ways to support educational leaders. Visit the [Lead IDEA Center](#) to access free resources and learn more.

What We Found in the BTO Analysis

Facilitating Distributive Leadership and Growing Leaders From Within

Administrators discussed their approach to leadership as one that shares ownership, roles, and responsibilities among staff, focusing on developing and growing leaders from within. This sentiment was expressed most commonly among administrators but was echoed by some teaching staff. One teacher explained: “Our administrators are always open to giving us learning opportunities. They want us to learn. If we have questions, they find answers.”



An administrator from an intermediate school described how they include all staff in leadership at various levels: “Every single person in this building is a leader... and so my goal is for them to be a grade chair or to lead in some capacity.” This administrator mentioned specific roles such as leading attendance meetings or family/community development meetings. They also described how members of the formal leadership team rotate every couple of years. This shows their commitment to ensure every person in the building is a part of the leadership team and has ownership of what the school does.

Creating Positive Culture and Structures to Provide Healthy Working Conditions and Constructive Feedback

Focus group participants discussed how leaders foster a positive culture and structures to support healthy working conditions. For example, a middle school special educator highlighted the importance of a culture that allows room for learning from mistakes and continuous growth.

We have the most positive, proactive, strong, strong, strong PLC [professional learning community] ... that I have ever had the blessing of working with. And that is a huge key ... to kind of reach out of our comfort zone at times to learn, continue learning, and growing. ... Embracing the growth mindset ... we can rally around, and you know, try something different next time.

An administrator in an elementary BTO school described using informal walk-throughs to provide positive and constructive feedback on instruction. They emphasized a student-centered approach, noting that observing whether students can explain lessons in their own words helps determine their understanding and identify if teaching adjustments are needed.

Responding to Needs of Staff, Family, and Students

Educators in a BTO middle school shared examples of how leaders actively seek and respond to feedback and needs from various groups. They explained that the principal conducts annual surveys to gauge staff satisfaction, identify their needs, and gather suggestions for school improvement. Most importantly, they described leaders as being highly responsive to others’ needs: “They are very present in our lives and the lives of our students. They know our concerns and our students’ needs. They also hang out with our kids at recess, lunch, etc.”

An administrator in this same school also acknowledged other administrators in their focus group, describing their “leadership by example” by knowing all students.



The two administrators in this chat right now [names blinded] can walk through, and they know every student's name ... They know them all. They know their families, they can, you know, give details about most of them.

An elementary administrator praised their team members in the focus group by explaining how leadership responds to others' needs.

So, you'll see [referring to other administrators] in class ... providing that on-the-ground support. ... And so, it's not above any of our team members to come in and cover classes. ... We just feel like there's no job that's too small. I think it's created really the positive culture that all of our students need to thrive.

Collective Efficacy

Collective efficacy is the shared belief among educators and staff that they can positively impact student learning and outcomes. Donohoo et al. (2018) argued that when educators have a shared sense of collective efficacy, the culture of the school tends to reflect high expectations for student success. Collective efficacy influences teachers' perceptions of themselves as change agents and collaborators, moving beyond just procedural compliance to a focus on student learning (Donohoo et al., 2018). As educators' collective efficacy grows, student academic achievement improves (Adams & Forsyth, 2006; Bandura, 1993; Goddard et al., 2004). Further, collective efficacy is developed and strengthened through evidence of positive impact (e.g., improved student outcomes), which in turn reinforces positive educator behaviors, beliefs, and motivations, a concept Bandura (1993) referred to as reciprocal causality. Therefore, leaders play an important role in demonstrating explicitly how staff collectively impact student outcomes to sustain this sense of collective efficacy (Donohoo et al., 2018).

What We Found in the BTO Analysis

Collaboration and Collective Efficacy Go Hand in Hand

BTO participants described collective efficacy—and teacher mindsets generally—as closely linked to staff collaboration and teamwork. While they didn't explicitly mention the term “collective efficacy,” they spoke about teacher mindsets, beliefs, and motivation to work together to support all students, which demonstrated a sense of collective efficacy.

You know, I've heard in the past from other teachers and other schools. Oh, well, those are your kids. The students with IEPs, those are your kids. You're the [special education] teacher. ... And it's not [like that here], it's all of our kids. We want them all to succeed the same way. Our main



goal is for them to not need an IEP one day. For them to be successful in their life. And if you're just pushing it all on one person ... our babies are not going to get where they need to be. It takes the community, yes.

For example, a special educator from an intermediate school explained this mindset of “all our students” and its positive impact on teamwork and collaboration was echoed by participants from other schools.

I think that we spend a lot of time making an impact with kids, and that they're all our students. ... We collaboratively work together with all these kids, they're all our children. ... So we just all work together to raise these kids to become the best that they can be.

Teachers in BTO schools also spoke about how staff learn from others who have been successful to increase their collective impact. For example, a general educator in an intermediate school explained how staff work across grade levels to learn about and build upon what worked for certain students in prior years.

So, we're asking about what they did with these students that we have in 5th grade this year and how we can better make them successful by building on what they've already created and what they've already taught. And that way we're helping everyone be successful.

This speaks to the idea of collective efficacy as a self-reinforcing resource: When teachers see how their collective efforts have made an impact on student progress, they continue to build on that success.

Leveraging Collective Efficacy to Close the Gap

Administrators in BTO schools were attentive to the achievement gap that exists between SWD and their general education peers and reported actively employing strategies to address these differences. Educators' comments on efforts to close the gap suggested a sense of collective efficacy among them, including this comment of an elementary administrator.

But this year we were looking at some of our math achievement through the lens of how are we closing the gap? And so, I think our teachers were able to really say, “Okay, these instructional moves that I made are really having the outcomes that we want.”



By connecting specific instructional practices to student outcomes, teachers saw that the changes they made together were making a positive impact.

The BTO schools also appear to have an “all-hands-on-deck” mentality, bringing the whole team together to support students and ensure that “there’s no way these kids can fall through the cracks,” as one special educator described. A middle school administrator similarly highlighted how IEP goals are closely aligned with the broader goal of closing achievement gaps between SWD and their peers, and described this as a team effort among “caring individuals that won’t give up on [students].”

High Expectations

The importance of high teacher expectations for student learning has been well-documented (e.g., Jussim & Harber, 2005; Wang et al., 2018). Teacher expectations are important because they influence how teachers behave and how they interact with students (Brophy & Good, 1970) as well as students’ expectations of themselves (Montague & Rinaldi, 2001; Shifrer, 2013). Yet, evidence suggests that many in-service and pre-service educators hold lower expectations for students with disabilities (Shifrer, 2013; Whitley, 2010; Woodcock & Vialle, 2011).

Teacher expectations for student learning and success are notably malleable. A systematic review of research on teacher interventions, such as those focused on beliefs, awareness, or behavior, indicated that it is possible to positively affect teacher expectations (de Boer et al., 2018). High expectations for SWD can also be supported by close communication and collaboration across staff and families, encouraging student self-advocacy and self-determination, and encouraging positive interactions with adult role models both within and outside of the classroom (Fitzpatrick & Theoharis, 2014).

What We Found in the BTO Analysis

High Expectations for All Students Starts With Leadership

Maintaining high expectations starts with strong leadership, as highlighted by several focus group participants. For instance, a special educator in an elementary BTO school described how a leader’s mindset fosters a positive culture of high expectations for all students. This educator praised the principal as a “fabulous leader” whose “focus is his students,” encompassing *all* students in the school, including those from other neighborhoods attending a specific program for social, emotional, or behavioral challenges. This educator emphasized that the school culture begins with the leaders and their belief that all students belong.



Keeping High Expectations for All Students by Strengthening Tier 1 Instruction

In several instances, participants spoke about the importance of strong Tier 1 instruction, emphasizing high expectations for all students, regardless of disability or specific needs. For example, an administrator from an intermediate school noted: “Everything falls back on the bottom line of having good Tier 1 instruction. And to ensure that Tier 1 instruction is being implemented with fidelity across the board to all students.” An elementary administrator similarly explained that their school is working on “really strengthening the type of Tier 1 instruction that will benefit all of our students. So that irrespective of disabilities, they’re having access to high-quality [instruction].”

Leading With Ambitious Goals and a Growth Mindset

Focus group participants emphasized high expectations as being operationalized through ambitious goals for students, focusing on acceleration rather than remediation, and enabling access to advanced coursework.

A special educator in an intermediate school highlighted the school’s high expectations by sharing that the goal is “to accelerate, not just constantly be remediating.” This educator explained that these efforts are connected to maintaining high expectations, implementing effective Tier 3 interventions, and ensuring effective communication with parents about their child’s progress toward goals.

An elementary school administrator shared their approach to maintaining high expectations for students, ensuring that disabilities are not used as a “barrier for students accessing advanced level courses.” To counteract negative mindsets (e.g., “they’re so disorganized”) about students who may struggle with executive functioning (e.g., due to attention-deficit/hyperactivity disorder), the administrator reframed the issue as a matter of providing the necessary support: “Nope, we can support that, and the student can still access the advanced level course and be successful there.”

Data Literacy

Data literacy among educators and leaders is crucial for creating and maintaining a sustainable school system that supports progress for SWD. Data literacy is essential for systemic improvement and a necessary component of designing, implementing, and understanding effective Tier 1 instruction and IEPs, as well as effectively delivering SDI. Data literacy involves the ability to explore, understand, manage, use, and communicate about data effectively to reflect on practices and make improvements (Ruedel et al., 2021). Data literacy can be strengthened and supported through professional learning and supportive infrastructure (e.g., systems and processes to reduce time burdens to use data), and by engaging stakeholders in decisions about data collection and use (Ruedel et al., 2021).



Learn more about building data literacy among educators. The [National Center for Systemic Improvement](#) outlines the four elements of data literacy in its [Essential Elements of Comprehensive Data Literacy](#).

More specifically related to SWD, IEPs must include measurable annual goals, including a description of how progress toward goals will be measured and when periodic reports on progress will be provided. These measurable annual goals are based on students' unique needs outlined in their present levels of academic achievement and functional performance (PLAAFP) statement (PROGRESS Center, 2021). Annual goals must also guide the development of short-term learning objectives. Hattie's (2009) synthesis and meta-analysis highlighted the positive effects on student achievement when teachers set specific and challenging goals and objectives. This connection underscores the importance of data literacy in fostering high expectations.

Data literacy is also critical for effective design and implementation of SDI, which requires an evidence-based, iterative process using individual progress monitoring data to make decisions about adaptations to instructional delivery, content, and methodology (PROGRESS Center, 2023). Knowing when to intensify instruction for SWD should be grounded in data-based individualization (DBI), an "evidence-based process for individualizing and intensifying interventions for students with severe and persistent learning and behavioral needs" (Lemons et al., 2017), which often occurs within an MTSS framework (Danielson & Rosenquist, 2014). The effectiveness of the delivery of intensive instruction is enhanced when teachers receive more frequent and ongoing supports, such as coaching (Espinas & Fuchs, 2022; Fuchs et al., 2021; Shanahan et al., 2024).

What We Found in the BTO Analysis

Team Approach to Data Collection and Use

Participants from several BTO schools reported collecting and using data from various groups—students, families, and educators. For example, elementary students in one school were given a survey about their experiences of bullying and level of engagement, comfort, and ability to communicate well when they feel like something is not right. A BTO middle school also used a student survey to ask for ideas about changes students would like to see in the school. At one elementary school, members of the student government helped survey students on well-being and culture. An administrator at another elementary school shared that they use weekly check-in data collected from students to "track what students say and then let the teachers or relevant student support team members know if there is any follow up needed so that we are constantly supporting our students."



Participants also reported engaging students in looking at their own data, setting their own goals, and monitoring their own progress. An administrator at an intermediate school described their district as “a very data-driven district from the top down to the students.” An elementary principal shared that he believes “kids have to play a role in their own success,” and went on to explain that, in addition to benchmark goals, “every student has their individualized growth target... We monitor and we communicate with kids how much they are growing based on their own growth target.”

Likewise, family engagement is supported by collecting and acting on data from families. Multiple BTO schools used surveys of parents and families, including at least one focused specifically on families of SWD. One BTO middle school offered families and caregivers a \$20 gift card survey incentive because response rates were low, and their feedback was considered critical to school improvement. Another participant reported that their school invited parents and caregivers to be a part of the school improvement team, where they can help explore the school’s academic, culture, and climate data and be involved in action planning and school improvement.

Participants also reported using teacher and staff data when making decisions. Participants from most of the BTO schools reported using annual staff surveys to identify levels of satisfaction and areas for improvement. Some also reported using surveys to gather information regarding specific staff concerns such as safety at school; notably, one educator explained that the results of the survey were used to address teachers’ safety concerns.

Using Data to Inform Instruction and Intervention

Educators and administrators in BTO schools provided concrete examples of using data to inform, assess, and adapt instructional strategies and interventions, often within an MTSS framework. One school explicitly mentioned using MTSS, another referred to [PBIS](#), and two schools discussed tiered interventions more generally (e.g., Tier 2 and Tier 3) without naming them as MTSS, PBIS, or RTI. An elementary general educator described how data is used to support various aspects of student development. This includes using data to design and implement instruction, monitor student progress, facilitate conversations with families, and enhance collaboration among staff to better support students.

They [teachers] have the reports that are fresh off the printer every other week for parent meetings, parent conversations. [Teachers are] able to go back into the classroom, meet the area of need for the students ... They’re the ones that are doing the progress monitoring on the students. So, they have the same data. ... So our collaboration amongst the entire staff is supported.



A general educator in an intermediate school described how, in addition to using screeners, they used state assessment results. Educators come together across grade levels to collaborate on specific “focus standards.” These standards become the focus of progress monitoring and summative data meetings. Educators built on what was done in prior grades and “take it to a different level” as students advance to higher grades.

Focus group participants provided specific examples of using data to assess progress and adapt instructional practices and interventions as shared by an administrator from an elementary school.

Using Data for Multiple Purposes

Participants also acknowledged the importance of measures beyond test scores and academic goals, including student attendance, access to the general education curriculum, student–teacher relationships, and belonging. For example, an elementary administrator noted an important data point for them is that almost 87% of their students are in “inclusive classrooms,” which they described as indicative of a “strong belief in the school that students should be working with their non-disabled peers.”

As discussed previously regarding student belonging, a participant from an elementary school described using data to ensure that all students can identify a trusted adult in their building. An administrator from the same school highlighted a goal of measuring love, aligning with the district’s mission around “students feeling safe, loved, challenged, and prepared.”

Our district has defined love through the lens of a sense of belonging. So, we’ve been able to track data. And that’s for students in Grades 3 through 5. Like their sense of belonging. Do they feel understood by the adults at [school]? Do they feel respected by their peers?

These examples clearly demonstrate how data is being used beyond instruction and academics to support student belonging.

Recommendations

Our findings align closely with other findings from PROGRESS Center’s knowledge development and technical assistance activities conducted from 2019–24. As a result of this work, including this BTO analysis, our recommendations for a “Successful School System” include five essential elements (i.e., student belonging, educator supports, evidence-based general education instruction and supports, individualized instruction and supports, and staff collaboration) and five facilitators that are embedded across and support the essential elements (i.e., family



engagement, high expectations, strong school leadership, collective efficacy, and data literacy). These recommendations are aimed at addressing several common educational challenges cited by BTO participants, including limited staff and resources; poor working conditions, educator burnout, and educator shortages; limited special education-specific content knowledge among new general educators; and barriers to student and family participation (e.g., transportation and work schedules). While all the schools indicated they are continuously improving their practices, their current approaches and lessons learned can help school leaders and educators in developing and implementing more sustainable school systems that promote progress for SWD. In addition to recommendations for school-level implementers, we offer recommendations for policy makers and researchers.

Recommendations for Educators/Practitioners

Based on our BTO findings, Exhibit 14 presents the recommended framework for implementing a sustainable system that promotes progress for SWD. The essential elements include student belonging, effective general curriculum with supports, individualized instruction and supports, staff collaboration, and educator support. We recommend that school leaders and educators implement school systems that attend to each of the five essential elements:

- Support **student belonging** by removing barriers to access, fostering participation in extracurriculars, and strengthening relationships.
- Provide high-quality, **evidence-based general curriculum and core instructional programming** that is accessible to all students by adopting a tiered infrastructure and structured support system to identify and address student needs, apply interventions, and monitor growth.
- Attend to **individual instructional and support needs** by delivering specially designed instruction, supplementary aids and services, and related services to support access to general curriculum and core instruction.
- Support **staff collaboration** by building collaborative structures—both formal and informal—that allow for creative and intentional collaboration, including dedicated co-planning time.
- **Support educators** with a variety of targeted professional learning and mentorship opportunities and by acknowledging and celebrating successes.



Exhibit 14. Essential Elements and Facilitators of a Sustainable School System that Promote Progress for Students with Disabilities



Although our ability to draw conclusions about how to cultivate and sustain the key facilitators (i.e., family engagement, strong school leadership, collective efficacy, high expectations, and data literacy) is more limited, we recommend the following:

- Encourage **family engagement** by reducing barriers to participation, offering flexible times and modalities for engagement, and building personal connections.
- Develop **educational leaders**—in both formal and informal leadership roles—who hold and model positive mindsets related to high expectations and collective efficacy.
- Support **high expectations** by providing strong Tier 1 instruction, leading with ambitious goals, and supporting growth mindsets among educators.
- Encourage and sustain a sense of **collective efficacy** by celebrating successes in ways that directly connect educator actions to student progress.
- Support **data literacy** throughout the school year through school- or district-wide professional learning, supportive infrastructure (e.g., time and systems to enable data use), and a team-based approach.



Recommendations for Policy Makers

Based on our BTO findings, we recommend that policy makers:

- Design and implement policies to effectively address the common educational challenges including limited staff and resources; poor working conditions, educator burnout, and educator shortages; limited special education-specific content knowledge among new general educators; and barriers to student and family participation.
- Emphasize the importance of both high-quality core instruction and programming (e.g., academic and non-academic) as well as effective individualized services and aids when developing and implementing policies related to teacher quality, including teacher recruitment, retention, accountability/evaluation, and compensation policies.
- Ensure availability of valid, reliable, and actionable data to assist schools and districts in identifying and responding to needs related to staffing, resource allocation, instruction, supports, and non-academic purposes (e.g., attendance and behavior).
- Develop or identify and share policies that emphasize the development of data literacy among district and school staff.
- Encourage [distributive leadership](#) to promote shared decision-making, share responsibilities for design and implementation, and increase sustainability by growing leaders from within (e.g., “grow-your-own” programs).

Recommendations for Future Inquiry and Research

This analysis, like the literature base more broadly, has limitations. We recommend several areas for future learning and translation of research to practice:

- Identify and quantify which elements and facilitators are the most important key ingredients (e.g., through observations of both BTO schools and lower performing schools).
- Identify, in particular, the implementation and impact of high-quality core instruction and individualized student instruction and supports as distinct but related efforts, including how they work together to promote progress for SWD.
- Evaluate effective practices for schools to further deepen collaboration and engagement with families in ways that better support progress for their students.
- Understand why middle and high schools were less likely to be identified as BTO (i.e., they were less likely to be consistently BTO across years and subjects), and whether there are elements or facilitators that are critical in secondary versus elementary settings.



- Evaluate the effectiveness of specific strategies for fostering collaborative cultures and collective efficacy, because there is limited research on how to make schools more collaborative (Schleifer et al., 2017).
- Assess the impact of mentoring programs for novice special educators and paraprofessionals; that is, most of the existing research focuses on general educators or is not differentiated by role type (Billingsley & Bettini, 2019).
- Explore how educators select and implement appropriate evidence-based practices and identify ways in which educators can be supported to follow these practices more efficiently and effectively.

Conclusion

This BTO analysis used mixed methods to (a) quantitatively identify schools that are BTO in terms of math and reading performance—of SWD in particular—on standardized state assessments, and (b) learn from staff working in these schools through focus groups and interviews. Though the goal of the qualitative phase—and qualitative research more generally—is not to produce generalizable findings (Drisko, 2025), our findings include several lessons learned that may be applied more broadly in schools. Importantly, these findings align closely with the accumulation of knowledge developed by the PROGRESS Center from 2019–24 and prior research.

Our findings identified key components and facilitators of successful school systems, providing specific illustrative examples from BTO schools implementing these elements.

Across BTO schools, the message is clear that intentionality, flexibility, and personalization are key when fostering relationships among students, families, and educators. Productive relationships do not just happen, they are facilitated. We also found that BTO school leaders inspire collective efficacy and high expectations. Decisions are made through a team-based approach that values engagement and input from students, staff, and families, and relies on data and evidence. We heard about innovative ways schools use technology to enhance students' access to the general education curriculum, connect with families meaningfully and flexibly, and collaborate with other educators. We found that BTO schools often implement tiered frameworks like MTSS or PBIS, which support data literacy, intervention identification and implementation, and progress monitoring. These schools also value activities beyond academics, such as recognition of staff and student successes, student extracurriculars, and family fun nights. Teachers in these schools genuinely connected and enjoyed working together, describing the culture as “family.” Importantly, an “all means all” mindset among students, families, teachers, staff, and administrators is key. In BTO schools, the focus is not just



on SWD but on supporting the success of all students, fostering a belief that every student is capable and valued.

Our findings largely align with a 2024 report by TNTP that collected data from seven schools in which students made considerable progress (more than 1.3 years of growth each school year), after previously performing below grade level, on average. While their report was not focused on supporting progress for SWD in particular, their findings—like the BTO findings—emphasized student belonging. Additionally, they reported that consistency and coherence were key. Focused on consistently delivering good teaching and building a cohesive, unified instructional programming with clear priorities, the schools in their study were able to make transformational progress for their students. Likewise, our BTO analysis highlights the importance of consistency and coherence (e.g., through school-wide systems and frameworks, school-wide expectations for collaboration across staff and with families, and consistent messaging from leaders).

Despite the current challenges in education, particularly special education, SWD at many schools—including those identified as BTO—continue to make progress and thrive. The lessons learned from BTO schools confirm what special educators and researchers already know about effective practices for SWD. These BTO schools – like the schools in the TNTP (2024) study, have not found a “silver-bullet” solution, but are diligently implementing the essential system elements and facilitators and systematically addressing persistent issues in special education. As such, these BTO schools are demonstrating how schools—through innovation and persistence—can address pervasive challenges and maximize the potential for SWD to make progress and be successful.



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Appendix A. Methodological Details

We used an explanatory sequential mixed methods approach, in which the qualitative phase helped to explain the results from a prior quantitative phase. Specifically, we used a case-selection variant of the explanatory sequential approach in which the first phase (quantitative data collection and analysis) was used primarily to select cases for the second phase (qualitative data collection and analysis) (Creswell & Plano Clark, 2018). The quantitative phase identified positive outlier schools that were beating the odds (BTO) in terms of academic achievement (that is, test scores) of students with disabilities (SWD), and the qualitative phase explored the factors that school staff perceive as contributing to their success. This appendix describes these methods in more detail.

Quantitative Phase

During the first phase of the project, we used quantitative data about states and schools to identify schools that are BTO in terms of academic test scores of SWD.

Identification of States for BTO School Selection

The first step was to identify a set of states that were showing growth in performance on the National Assessment of Educational Progress (NAEP) between 2017 and 2019. Specifically, we used NAEP Reading and Math scores for SWD in both Grades 4 and 8, across all 50 states plus the District of Columbia, and compared the 2017 and 2019 scores to determine whether there was an increase between those two time points (e.g., comparing SWD's 2019 Grade 4 reading to SWD's 2017 Grade 4 reading).

Our focus was on reading, but growth in mathematics scores was also checked, and states were excluded if they had significant decreases in mathematics scores. Utah was originally on the list but ultimately excluded due to high data missingness. Michigan was excluded due to its identification by the U.S. Department of Education (2018) as being in need of intervention for failure to meet Individuals with Disabilities Education Act (IDEA) requirements, which resulted in a lack of Midwestern states in this study.

The final list of 10 states for our school-level analyses reflects those that were showing growth (or at least not significant declines) in NAEP reading and math performance: Arkansas, District of Columbia, Georgia, Maryland, Mississippi, Rhode Island, South Carolina, Tennessee, Washington, and Wyoming.

Identification of Beating the Odds Schools: 2018–19

For the 2018–19 BTO analysis, we used two main sources of publicly available school-level data: the 2018–19 National Center for Education Statistics (NCES) Common Core of Data (CCD) and 2018–19



assessment data from the U.S. Department of Education's EDFacts Initiative (EDFacts). The school-level CCD data included the membership file that reports the total number of students and the number of students by race/ethnicity and grade. Additionally, the CCD staffing data reports the total number of staff in the school by role type. We focused on the total number of teachers.

We used the CCD data to calculate the following control variables:

- The percent of students (Grades 3–12 to align with tested grades) in the school by race/ethnicity (i.e., White, Black or African American, Hispanic/Latino, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Two or More Races, or Race Not Specified). Because of the small numbers in certain categories, the variables included in the regressions are Black or African American, Hispanic/Latino, Asian, and other-non-White, relative to the reference category of White.
- The student–teacher ratio.
- The natural logarithm of total student enrollment.

We used EDFacts data, including performance and participation rates on math and reading/language arts tests, in Grades 3–8 and high school, for different groups of students. The test scores included were combined across regular assessments (with or without accommodations) and alternative assessments. We used the EDFacts data to calculate the dependent variables (i.e., percentage of SWD scoring proficient or higher on the math and reading/language arts tests, respectively) as well as the following control variables:

- The percentage of valid test scores (separately by subject) for SWD.
- The percentage of valid test scores (separately by subject) for students identified as having Limited English Proficiency (LEP).
- The percentage of valid test scores (separately by subject) for students identified as economically disadvantaged.

Due to cell size suppression in the EdFacts data, the dependent variables (percentage proficient or higher for SWD, in math and reading/language arts, respectively) were sometimes reported as a range of proficiency rates. Most of these ranges are relatively small, so we imputed the median of those ranges (e.g., imputing 92% for a range from 90% to 94%). However, in some cases, the ranges were as wide as < 50% or ≥ 50%. For these extremely wide ranges, rather than imputing 25% or 75%, respectively, which would introduce a large amount of measurement error, we excluded these observations.



Identification of Beating the Odds Schools: 2021–22

Due to COVID-19-related disruptions to public schooling beginning in March 2020, we were not able to conduct focus groups immediately after the identification of BTO schools using the 2018–19 data as originally planned. Instead, focus groups and interviews occurred beginning in July 2024, and we conducted a second round of quantitative data analysis (using 2021–22 data) to ensure that our identified schools were still BTO.

For the 2021–22 BTO analysis, we used two main sources of publicly available school-level data: the 2021–22 NCES CCD and the 2021–22 assessment outcomes from the U.S. Department of Education’s EdDataExpress website (eddataexpress.ed.gov). The school-level CCD data and the variables calculated from those data for 2021–22 closely resembled the description above for the 2018–19 data.

The 2021–22 EdDataExpress data replaced the EdFacts data used in 2018–19 and included performance and participation rates for different groups of students for math and reading/language arts tests in Grades 3–8 and high school. As with the EDFacts data, the EdDataExpress test scores included both regular assessments (with or without accommodations) and alternative assessments, combined. We used the EDFacts data to calculate the dependent variables (percentages of SWD scoring proficient or higher on the math and reading/language arts tests) as well as the following control variables:

- The percentage of valid test scores (separately by subject) for SWD.
- The percentage of valid test scores (separately by subject) for students identified as having LEP.
- The percent of valid test scores (separately by subject) for students identified as economically disadvantaged.

As with the EdFacts data, and to account for cell size suppression in the EdDataExpress data, the dependent variables (percentage proficient or higher for SWD) were sometimes reported as a range of proficiency rates. As with the 2018–19 EdFacts data, we excluded observations that had extremely wide ranges for these outcome measures (e.g., < 50% or ≥ 50%).

Analytic Method

To identify BTO schools, we conducted state-, subject-, and year-specific positive outlier analyses predicting the outcome (percentage of SWD scoring proficient or higher in reading, and in a separate regression model, math), as a function of several control variables, following:



$$\begin{aligned}
y_s = & \beta_0 + \beta_1 Pct_SWD_participating_in_test_s + \beta_2 Pct_valid_tests_ECD_s \\
& + \beta_3 Pct_valid_tests_LEP_s + \beta_4 Student_teacher_ratio_s \\
& + \beta_5 \ln(Student_enroll)_s + \beta_6 Pct.Black_s + \beta_7 Pct.Hispanic_s \\
& + \beta_8 Pct.Asian_s + \beta_9 Pct.OtherNonwhite_s + \varepsilon_s
\end{aligned}$$

Because of the selection of covariates for the regression model, in some cases, schools were excluded because they were missing covariates or had extreme outlier covariates. Most notably, several states had some schools with student–teacher ratios over 40,⁸ and several states had considerable numbers of schools missing the percentage of students with LEP.⁹

We compared the actual percentage of SWD that scored proficient or higher with the predicted value based on the regression model, and calculated the difference or the “residual” for each school. For each of these state-, subject-, and year-specific analyses, we ranked the schools by their residual, and selected the top 20 highest outliers (i.e., the 20 schools with the largest difference between actual performance and predicted performance) for consideration as a BTO school. For 89 (11.1%) of these observations, schools’ reported rate of students scoring proficient or higher was still considerably lower than what we might expect if schools were truly holding high expectations for students. Therefore, schools with less than a 30% proficiency rate among SWD were excluded from these top 20 lists. Additionally, after further review of school websites, we excluded two schools that were academic magnets with academic admissions tests and requirements.

Among the remaining positive outlier schools, we used these top 20 lists to identify a subset of 35 schools that were considered BTO schools, using the following priority:

1. Ten schools included in all four lists for their state (both years, both subjects).
2. Nine schools included in both reading lists and the 2021–22 math list for their state.
3. Six schools included in both reading lists and the 2018–19 math list for their state.
4. Four schools included in both math lists and the 2021–22 reading list for their state.
5. Six schools included in both math lists and the 2018–19 reading list for their state.

⁸ For example, Washington State had 43 schools in 2021–22 and 25 schools in 2018–19 with a calculated student teacher ratio over 40. Tennessee had 26 schools in 2021–22 with a calculated student teacher ratio over 40. Other states tended to have fewer of these outliers.

⁹ In the 2018–19 data, Wyoming was missing the percentage of students with LEP in about 37% of schools, Tennessee was missing the percentage LEP in about 29% of schools, and Mississippi was missing the percentage LEP in about 27% of schools. In the 2021–22 data, Wyoming was missing the percentage LEP in about 38% of schools, Tennessee was missing the percentage LEP in about 20% of schools, and Mississippi was missing the percentage LEP in about 32% of schools.



Among these 35 schools, we used the priority order (beginning with 1) to start recruitment while also trying to achieve a range of schooling levels, states, and geographic regions. There was a notable lack of middle schools and high schools in the BTO list. On the list of 35 schools, only two were middle schools and three were high schools, and the remaining 30 were elementary schools. As a result, we began recruitment with seven schools (four elementary, two middle, and one high school) across six states (District of Columbia, Maryland, Mississippi, South Carolina, Washington, and Wyoming). We faced several challenges with recruitment (e.g., turnover of leadership and bounced emails, impact of Hurricane Helene in South Carolina, and schools not wanting to add tasks to educators' already full plates), so we expanded our recruitment to a total of nine schools (six elementary, two middle, one high school), including additional schools from Tennessee and Georgia. We ultimately recruited five schools to participate in focus groups or interviews. All five included schools were within the top three levels in terms of priority as described previously (four within priority level one, and one within priority level three). Although our original intent was to conduct three separate focus groups in each of these schools (one for special educators, one for general educators, and one for leaders), to enable recruitment and scheduling, we provided schools with considerable flexibility (e.g., in some cases, we combined groups of educators into a single focus group or conducted 1-on-1 interviews). In these cases, transcript data were disaggregated by role type (general educators, special educators, and leaders) before data coding and analysis.

Qualitative Phase

Qualitative Data Collection

As described in the "Our Approach" section of the report, the qualitative component included interviews and focus groups with special educators, general educators, school leaders, and district administrators in BTO schools to gain insights into their experiences and perceptions of effective practices that contribute to a successful school system. Among the set of schools identified as BTO from our quantitative phase, we prioritized recruitment for qualitative data collection among a set of schools that were positive outliers in both reading and math, and in both 2018–19 and 2021–22, whenever possible. Few high schools were consistently outperforming expectations in both subjects and years, so we selected schools serving a range of grades, from kindergarten to Grade 8, and from a variety of geographic contexts and regions of the country (Appendix B contains details about the included schools).

In total, we conducted nine focus groups and six individual interviews across the five schools between June and December 2024, with a total of 56 participants (Exhibit A1).



Exhibit A1. Number of Sessions (Focus Groups and Individual Interviews) and Number of Participants, by Role Type, June–December 2024

Session types	School A (Grades 4–5)	School B (Grades 3–5)	School C (Grades PK–5)	School D (Grades K–5)	School E (Grades 6–8)	Total
Total sessions	1	3	1	7	3	15
Administrators	3	5	3	4	5	20
Special educators	1	6	0	2	6	15
General educators	1	10	0	2	8	21

Note. The 56 participants (20 administrators, 15 special educators, and 21 general educators) were split across the 15 total sessions (nine focus groups with more than one educator and six individual interviews).

Our focus group and interview protocol¹⁰ was aligned with a theoretical framework based on extensive literature reviews and the PROGRESS Center’s work from 2017–24 in partnership with schools and districts throughout the country to support the development and implementation of high-quality instructional programming for SWD. This collaborative work included thought leader summits and forums with experts and stakeholders and focus groups with parents, families, students, and educators. Our findings from this collaborative work resulted in the understanding that several elements (Exhibit 8) and facilitators (Exhibit 9) are necessary for a successful and sustainable school system that effectively supports SWD. Although the findings in this report ultimately supported a slightly different set of five elements and five facilitators, our approach was based on this theoretical framework.

In particular, our focus group protocol asked explicit questions about the five elements in our theoretical framework described in Exhibit 8 (student belonging, family engagement, staff collaboration, individualized instruction and supports, and educator supports). When time allowed, we also asked additional probing questions, as relevant, about previously-identified facilitating factors (high expectations, strong school leadership, evidence-based practices, data literacy, and collective efficacy). Due to constraints on the amount of time we were able to meet with and learn from educators, most of our data was directly related to the elements rather than the facilitators. With more time for additional data collection, we could have more explicitly asked about facilitators as well.

Qualitative Data Analysis

The research team conducted analysis of qualitative data through an iterative process including both deductive and inductive coding (Saldaña, 2021). The research team developed a codebook

¹⁰ Available from the PROGRESS Center by request. Please contact us at <https://promotingprogress.org/request-support>.



based on existing research and prior PROGRESS Center knowledge development work. This included 11 a priori codes: (a) student belonging, (b) family engagement, (c) staff collaboration, (d) effective instruction and student supports, (e) educator supports, (f) high expectations, (g) strong school leadership, (h) evidence-based practices, (i) collective efficacy, (j) data literacy, and (k) an “other” code to capture salient excerpts that did not directly align with a theorized element or facilitator, but that could lead to identification of additional elements or facilitators.

In the first round of coding, we coded transcripts based on codes related to the five elements in our theoretical framework (Exhibit 8). We used directed content analysis (Hsieh & Shannon, 2005), that is, deductive coding, because there was prior research and existing theory upon which our theoretical framework was based.

In the second round of coding, we used a combination of both deductive and inductive coding. Deductive coding was used for the remaining a priori codes, which were less directly related to specific practices as much as they were to mindsets, culture, or beliefs (i.e., strong school leadership, collective efficacy, high expectations, evidence-based practices, and data literacy). Inductive coding was used for identifying other additional factors not related to our deductive codes. The research team completed all coding and analysis using a qualitative software program (Dedoose, 2022).

Four researchers were trained to use the codebook and Dedoose, though ultimately, two members of the team did the majority of the coding. We assessed intercoder reliability (ICR) using the following process. First, 5% of the transcripts were selected for training and determination of ICR among the two main coders. One coder identified text units, defined as segments of the transcript that each represented a single message (McFadden et al., 1992), and then both coders applied the codes to the identified text units. The codebook was refined during this process with representative examples and nonexamples pulled from the training transcripts and added to the codebook. An intercoder agreement matrix was used to calibrate agreement (Kurasaki, 2000) with a target overall weighted ICR of above 80%.

Initially, we envisioned coding our data using the full codebook, but ICR on the first and second training sets were 51.1% and 79.2%, respectively. With low ICR, we decided to conduct separate rounds of coding with round 1 focused on the five elements and round 2 focused on the five facilitators and the “other” code. This enabled more consistent use of the codes and prevented confusion between similar codes.

After limiting the codes for our first round of analysis, the ICR on the next training set was 80.5%. We used directed content analysis to systematically apply the five element codes to the remaining transcripts (Hsieh & Shannon, 2005). Since the overall weighted ICR was above 80%, only every fifth transcript was double coded and checked for ICR, which remained above 80%



for the remainder of round 1. Coders met regularly throughout this phase to discuss any coding disagreements that arose to ensure that coding remained consistent throughout the process, and the coders brought issues to the full research team to discuss, as needed.

Round 2 of coding focused on the remainder of the codebook and followed the same procedures as round 1. Achieving 80% ICR was challenging in this case because the second round of codes included more open-ended, inductive coding (e.g., “other”). To achieve consistency between coders, 25% of transcripts were used for training purposes. As in round 1, after a threshold of overall weighted ICR above 80% was reached, only every fifth transcript was double coded.

During the final phase of qualitative analysis, we used pattern coding to group the coded excerpts across transcripts by commonalities or recurring patterns (Miles & Huberman, 1994; Saldaña, 2014). This iterative process involved (a) identifying themes that resonated across multiple transcripts, (b) connecting representative excerpts from the transcripts to the themes, and (c) checking for disconfirming evidence of the theme. Also, during this phase, excerpts coded as “other” were closely examined to explore additional elements and facilitators of high-quality instructional programming for SWD.

Limitations

There are several important limitations to keep in mind. The quantitative data available for identifying BTO states and BTO schools were limited, which resulted in some states being excluded from consideration due to high rates of missing data as well as limited sets of variables available for the positive outlier analysis. This means that there may be important characteristics of schools and their local contexts that were not accounted for in the identification of BTO schools. Another important limitation was the impact of the COVID-19 pandemic on the availability of state assessment data (e.g., generally no tests in the 2019–20 and 2020–21 school years). As a result, we used 2018–19 data and 2021–22 data for this analysis, the latter of which was the most recent year of data available at the time of recruitment for qualitative data collection. Further, we focused on achievement levels as our outcome measures, rather than year-over-year growth in student achievement, as in TNTP (2024), which would have been useful for identifying which schools were contributing the most to student growth in each year.

Other limitations related directly to our ability to recruit a set of representative BTO schools across the country. First, the list of positive outlier schools for potential focus group recruitment was primarily elementary (30 out of 35 schools), with only two middle schools and three high schools on the list. Second, some of the states and schools on our list (such as those in South Carolina) were greatly impacted by Hurricane Helene in fall 2024, and were without power, water, and internet for extended periods of time, which impacted recruitment in those



areas. More generally, challenges with recruitment included limited time for schools to participate and school leaders not wanting to overburden their staff. This may indicate that even when educators have worked hard to support their students, including SWD, they are often so busy that they do not have the time to talk about the positive things they are doing. We addressed this second challenge by offering shorter, individual interviews as an alternative to longer, joint focus groups, which helped us secure the participation of some schools.

Limitations related to the administration of focus groups included attendance and participation patterns that differed from the original plan. For example, in some cases, an administrator joined and talked frequently during their school's general educator and special educator focus groups. This may have affected teachers' responses, in addition to the amount of time that we were able to hear directly from teachers. To reduce the impact of this on our ability to make comparisons between role types, we removed and separately coded administrators' comments from teachers' comments.

Another limitation related to our data collection efforts was the design of our focus group protocol, which was primarily focused on five elements of our theoretical framework (Exhibit 8). We generally found robust data on these areas in terms of what schools are doing, but our findings related to other things, such as what factors might be facilitating those practices, were more limited. Further, findings emerged related to two main types of effective instruction (e.g., general schoolwide practices) and individualized student supports (e.g., specially designed instruction, supplementary aids and services, and related services). However, we heard more about general practices and much less about individualized approaches. This might be due to our inclusion of general educators and administrators, who may know less about the particulars at the individual student level. Further, we often did not have enough time to dig deeply into one of the final questions on the protocol: "If you could change one thing about your school to better support students with disabilities, what would it be and why? In other words, what would you like your school to focus on next to grow and improve?" It is likely that this lack of time prevented us from hearing constructive criticisms or identifying suggested additions to the existing system.



Appendix B. School Profiles

The schools included in this analysis were selected purposefully as BTO schools and do not perfectly represent schools across the nation. We purposely selected a subset of the BTO schools that served a variety of student populations and that represented a mix of geographic settings (Exhibits B1–B5). Our final sample of schools included one middle school (Grades 6–8), two intermediate schools (Grades 3–5 or 4–5), and two elementary schools (Grades Pre-K–5 or Grades K–5). We identified few high schools as BTO in the quantitative phase, and none were included in our qualitative data collection because the single high school that regularly appeared on our list of BTO schools (across years and subjects) serves a particularly advantaged population and is likely not representative of high schools across the country. In the remainder of this section, we describe the selected BTO schools in more detail.

Exhibit B1. Data of School A

School A	Data
General school information (2021–22)	- Southern United States - Town-Distant (territory inside an urban area with population < 50,000; > 10 miles but ≤ 35 miles from an urban area with population of ≥ 50,000) - Intermediate/upper elementary (Grades 4–5) - Approximately 500 students; student–teacher ratio approximately 14 16% SWD, 86% ED, and < 2% LEP 64% Black or African American, 28% White, and 8% other
School performance on 2021–22 state assessment	- SWD math proficiency rate was 22 ppts > the same rate statewide (and 25 ppts > predicted by our BTO residual analysis using multiple regression) - SWD ELA proficiency rate was 18 ppts > the same rate statewide (and 23 ppts > predicted by our BTO residual analysis using multiple regression) - Overall math proficiency rate was 10 ppts > the same rate statewide - Overall ELA proficiency rate was 2 ppts < the same rate statewide (See Exhibit 2)
Student belonging	- Recognize and celebrate student successes, leadership, respect, etc. - Use small groups to promote student belonging - Provide access to extracurriculars such as art, physical education, and computer class - Celebrate student successes both big and small with incentives and rewards
Evidence-based general education instruction and supports	- Leverage paraprofessionals to support access to the general education curriculum and extracurriculars - Intentional use of pre-teaching or frontloading content, scaffolding, differentiation, and pacing guides - Use of anchor charts to guide students through activities



School A	Data
Individualized instruction and supports	• Less data directly related to individualized services and aids • General mentions of using modifications, accommodations, and assistive technology, with few, individual-specific examples (e.g., “How do I work with a child who may have ADHD and SLD for reading?”)
Staff collaboration	• Prioritize relationships and goal alignment between co-teaching special educators and general educators • Proactively plan and set expectations for collaborative time such as weekly PLC meetings (Tuesdays) and weekly follow-up meetings (Fridays) to review the week and make a plan to move forward
Educator supports	• Provide monthly trainings for teachers (e.g., via consultants, state department of education), focused on students with special needs, and open to general educators in addition to special educators • Use train-the-trainer models and cross-training • Encourage participation in a special education mentoring program through the state department of education for novice special educators, in addition to a school-based mentorship program for new educators (not specific to special educators) • With additional resources, they could do more (e.g., provide more manageable caseloads)
Family engagement	• Survey parents/families of SWD annually • Hold parent/family nights to provide resources for parents/families of SWD • Prioritize positive and proactive outreach to families (e.g., “good news ticket” if a student has achieved some goal or is making notable progress) • Use communication systems such as the Remind and ClassDojo applications • With additional resources, they could do more to encourage family engagement
Strong school leadership	• Prioritize strong student relationships and getting to know students individually
Collective efficacy	• Develop and leverage collaborative relationships among educators enable them to know exactly how to support students (e.g., what to reteach, review, remediate, etc.)
High expectations	• Hold high expectations for each child and hold child accountable to goals; do whatever is needed (e.g., scaffolding, blended learning) to help that child grow
Data literacy	• Use data from the top (leadership) down (to students); involve students in monitoring their own progress • Regularly analyze student data together in groups including both general and special educators • Use iReady (web-based program for diagnostic assessment and instructional intervention)

Note. SWD = students with disabilities; ED = economically disadvantaged; LEP = Limited English Proficiency; Ppts = percentage points; ELA = English language arts; PLC = professional learning community. For comparison purposes, state proficiency rates were calculated based on the same grade levels as those served in the BTO school. Data



sources are the 2021–22 school-level files available at Ed Data Express ([Data Download Tool | Ed Data Express](#)) and the National Center for Education Statistics Common Core of Data ([Common Core of Data \(CCD\) - CCD Data Files](#)).

Exhibit B2. Data of School B

School B	Data
General school information (2021–22)	- Southern United States - Rural-Fringe (census-defined rural territory that is ≤ 5 miles from an urban area with population of $\geq 50,000$ as well as rural territory that is ≤ 2.5 miles from an urban area with population $< 50,000$) - Intermediate/upper elementary (Grades 3–5) - Approximately 500 students; student–teacher ratio approximately 16 15% SWD, 48% ED, and $< 1\%$ LEP 88% White, 10% Black or African American, and 2% other
School performance on 2021–22 state assessment	- SWD math proficiency rate was 39 ppts $>$ the same rate statewide (and 33 ppts $>$ predicted by our BTO residual analysis using multiple regression) - SWD ELA proficiency rate was 32 ppts $>$ the same rate statewide (and 31 $>$ predicted by our BTO residual analysis using multiple regression) - Overall math proficiency rate was 36 ppts $>$ the same rate statewide - Overall ELA proficiency rate was 31 ppts $>$ the same rate statewide (See Exhibit 3)
Student belonging	- Use buddy system to support self-contained kids when they are with a general education classroom for lunch, specials, recess, and other activities - Support participation in extracurricular activities regardless of disability status - Emphasize importance of personal connections (e.g., teachers attending events, supporting students emotionally)
Evidence-based general education instruction and supports	- Discussion primarily related to schoolwide general curriculum and core instruction (e.g., “everything falls back on the bottom line of having good tier one instruction”) - Strategic use of instructional technology in ways that support all students and provide specific accommodations for SWD, without singling them out (e.g., offering all students the ability to use headphones, one-to-one devices, and speakers in classroom that support ability for all students to hear) - Use intentional, flexible scheduling to ensure students get what they need - Little to no explicit discussion about evidence-based practices during data collection
Individualized instruction and supports	Discussion of individual needs (e.g., progress monitoring, graphing student growth data, differentiation, assistive technology (e.g., read-aloud, I-pads), and accommodations (e.g., large print and magnifying glasses)



School B	Data
Staff collaboration	• Use intentional, flexible master scheduling to maximize time in the general education classroom and provide students with needed interventions; however, scheduling is “tricky,” and it is challenging to find co-planning time during the school day, which often requires them to collaborate afterschool • Engage in constant, close collaboration (“we’re together all day”) across general educators and special educators including in the classroom, at data meetings, and at PLC meetings • Identify and leverage strengths of individual staff members • Align effective practices across grade levels so that each grade is able to build off what was done in the prior grade level • Develop sense of community (e.g., staff culture was described as being like a “family,” making it a “happy” place to work, and a place where coming to work is “very easy”)
Educator supports	• Provide district coordinators/specialists to support staff, including by bridging between the special education and curriculum departments • Celebrate and recognize educator successes; provide food and opportunities to celebrate and relax • Allow choice in professional learning (e.g., choice of breakout sessions) and provide opportunities for teachers to lead professional learning • Offer mentoring program for novice educators or those who are going to be serving SWD for the first time • Invite speakers that share mental health resources (e.g., “tips on how to destress and relax”)
Family engagement	• Communicate via a variety of platforms and methods (e.g., parent conferences, Parent Square, email, social media such as Facebook) • Prioritize positive, proactive messages • Provide events for family fun (e.g., a “Santa Store” with food trucks near the holiday season) • Special educators and general educators meet together with families so that everyone is on the same page
Strong school leadership	• Distributive leadership (e.g., every staff member viewed as a leader in some way; rotating formal roles on leadership team; providing opportunities for teachers to lead professional learning) • Clearly define roles and what the leader is asking them to do (e.g., described as an effective football team with a strong quarterback) • Supportive district leadership (e.g., supporting data analysis, progress monitoring)



School B	Data
Collective efficacy	- Highlight successes and identify what has been done in prior grade levels and build upon that to increase overall success; regularly use of “spotlight moments” for teachers to present to each other on what is working well in the classroom - Develop culture of “our students” rather than “your students” or “their students” ; recognize that each kid is the responsibility of all staff and work collectively as a team
High expectations	- High expectations described as connected to strong student–teacher relationships “where [the students] know we believe in them” - Implement quality Tier 1 instruction across the board regardless of student needs - Stated goals “to accelerate, not just constantly be remediating” and for students to “not need an IEP one day, for them to be successful in their life”
Data literacy	- Review state assessment data together as a team and pick focus standards for the year (which are the standards they will progress monitor and focus on at summative data meetings) - Hold regular “data meetings”

Note. SWD = students with disabilities; ED = economically disadvantaged; LEP = Limited English proficiency; Ppts = percentage points; ELA = English language arts; PLC = professional learning community; IEP = individualized education programs. For comparison purposes, state proficiency rates were calculated based on the same grade levels as those served in the BTO school. Data sources are the 2021–22 school-level files available at Ed Data Express ([Data Download Tool | Ed Data Express](#)) and the National Center for Education Statistics Common Core of Data ([Common Core of Data \(CCD\) - CCD Data Files](#)).

Exhibit B3. Data of School C

School C	Data
General school information (2021–22)	- Mid-Atlantic United States - City-Large (territory inside an urban area with population of $\geq 50,000$ and inside a principal city with population of $\geq 250,000$) - Elementary (Grades Pre-K–5) - Approximately 700 students; student–teacher ratio approximately 13 14% SWD, 2% ED, and 3% LEP 72% White, 10% Hispanic or Latino, 10% Two or More Races, 4% Black or African American, 4% Asian, and < 1% other
School performance on 2021–22 state assessment	- SWD math proficiency rate was 56 ppts > the same rate statewide (and 25 ppts > predicted by our BTO residual analysis using multiple regression) - SWD ELA proficiency rate was 56 ppts > the same rate statewide (and 26 ppts > predicted by our BTO residual analysis using multiple regression) - Overall math proficiency rate was 61 ppts > the same rate statewide - Overall ELA proficiency rate was 58 ppts > the same rate statewide (See Exhibit 4)



School C	Data
Student belonging	- Described the school as “fully inclusive,” without a resource room - Special educators also serve students without IEPs, which helps limit SWD seeing themselves as “being different from their peers” - Collect and track data on belonging (e.g., relationship mapping activity to ensure all students can identify a trusted adult in the school) - Build strong positive culture through things like “Weekly Jamboree” at which they celebrate student successes
Evidence-based general education instruction and supports	- Focus on access to the general curriculum and high-quality core instruction (e.g., “we are a fully inclusive school”) - Use a multi-tiered system of supports (MTSS), incorporating beginning, middle, and end-of-year assessments of basic skills, use of 6 to 8 weeks of interventions as needed, and ongoing data monitoring - Prioritize strong Tier 1 instruction for all students and research-based interventions in small groups - Use graphic organizers to break down tasks into more manageable steps - Embrace the “Science of Reading,” use a “reading workshop school” structure, and encourage “strong independent reading lives”
Individualized instruction and supports	- Offer several types of related service providers (e.g., speech therapy, occupational therapy, social emotional support services) - Offer individualized supports such as accommodations and modifications, including providing additional supports for SWD to fully participate in restorative practices - Use the Wilson Reading System (which uses the Orton-Gillingham approach), “double dose” interventions (e.g., receiving two math periods in a day), and Building Blocks (Behavior Interventions) - Use technology intentionally (e.g., one-to-one devices; training SWD to independently use speech-to-text and other literacy tools; virtual notebooks to push out graphic organizers, resource charts, etc.)
Staff collaboration	- Use master scheduling to allow general and special educators time for co-planning and co-teaching - Hold weekly team meetings to review data across tier levels and make adjustments as needed - Proactively plan and set expectations for regular meeting time. For example, meeting weekly on Mondays with co-teachers, related service providers, and special education administrators to review the calendar and ensure coverage for all needs; and meeting weekly on Fridays to review any issues that came up during the week and how to address those going forward



School C	Data
Educator supports	• Provide lanyards for teachers with, on one side, a QR code system for reporting behavioral concerns as they arise throughout the day and, on the other side, discussion questions for eliciting understanding of what happened and how to address this type of behavior in the future • Develop robust teams that support both students and educators (e.g., literacy and math coaches, full-time social worker, full-time counselor, full-time psychologist as well as occupational therapists, speech and language specialists, etc.) • Plan weekly touchpoints between teachers and coaches to work on learning cycles (e.g., on vocabulary or understanding morphology) • Build positive culture by highlighting educator successes (e.g., through district leader walk-throughs)
Family engagement	• Offer flexible modalities (e.g., virtual and hybrid) for meetings and conferences • Prioritize positive, proactive communication with families rather than waiting until an issue arises to reach out • Hold monthly community meetings that focus on sharing information and resources on topics related to SWD • Use weekly newsletters and systems such as the Remind app to communicate with families
Strong school leadership	• Leaders with prior special education experience provide understanding, empathy, and awareness that are helpful for supporting staff; leadership mindset of “once a teacher, always a teacher” • Provide on-the-ground support to remove tasks from educators’ plates so they can focus on quality instruction; no job is too small for any team member
Collective efficacy	• Recognize and celebrate successes and build upon that success; described as “building that muscle” • Connect teacher practices to academic growth and to closing achievement gaps in particular • Develop a sense of shared and collective ownership: “They’re all of our children”
High expectations	• Provide high-quality Tier 1 instruction for all students regardless of need • Hold high expectations to close opportunity and achievement gaps
Data literacy	• Use beginning, middle, and end-of-year assessments of basic skills (as part of their MTSS) • Embrace assessment and screening tools (e.g., use of Dynamic Indicators of Basic Early Literacy Skills [DIBELS] as a dyslexia screener) • Use Panorama Education system to collect and monitor student grades, assessment data, and intervention plans in an easily accessible way

Note. SWD = students with disabilities; ED = economically disadvantaged; LEP = Limited English Proficiency; Ppts = percentage points; ELA = English language arts; IEP = individualized education programs. For comparison purposes,



state proficiency rates were calculated based on the same grade levels as those served in the BTO school. Data sources are the 2021–22 school-level files available at Ed Data Express ([Data Download Tool | Ed Data Express](#)) and the National Center for Education Statistics Common Core of Data ([Common Core of Data \(CCD\) - CCD Data Files](#)).

Exhibit B4. Data of School D

School D	Data
General school information (2021–22)	• Mid-Atlantic United States • Suburban-Large (territory outside a principal city and inside an urban area with population of $\geq 250,000$) • Elementary (Grades K–5) • Approximately 400 students; student–teacher ratio approximately 16 • 8% SWD, 37% ED, and 24 % LEP • 40% White, 35% Hispanic or Latino, 10% Asian, 8% Black or African American, 7% Two or More Races, and < 1% other • Houses a district program that provides a set of comprehensive services for elementary SWD who experience significant emotional and/or behavioral difficulties, including some students who live outside of the school’s typical catchment area
School performance on 2021–22 state assessment	• SWD math proficiency rate was 39 ppts > the same rate statewide (and 33 ppts > predicted by our BTO residual analysis using multiple regression) • SWD ELA proficiency rate was 37 ppts > the same rate statewide (and 31 > predicted by our BTO residual analysis using multiple regression) • Overall math proficiency rate was 17 ppts > the same rate statewide • Overall ELA proficiency rate was 13 ppts > the same rate statewide (See Exhibit 5)
Student belonging	• Maintain strong belief among staff that SWD should be working alongside non-disabled peers • Build awareness of disability and learning differences in the school community, for example through the Parent–Teacher Association and cultural arts assemblies • Incorporate “Belonging and Inclusivity” as an important part of their school improvement plan; Belonging and Inclusivity Committee highlights different cultures (e.g., recognizing days of observance during morning announcements, providing resources for teachers to use in their classes) • Paraeducators support all students (not just those with special needs), which helps with student belonging in the classroom • Implement “kindness initiatives” to teach what it means to be kind and recognize students for acts of kindness (e.g., by putting their name on a strip of paper that forms a chain throughout the school) • Address increasing student needs
Evidence-based general education	• Use a multi-tiered system of supports; use data to “constantly” evaluate how Tier 2 and 3 interventions are working



School D	Data
instruction and supports	• Provide professional learning, observation, and coaching on specific practices such as increasing opportunities to respond through scaffolding, sentence frames, sentence starters, wait time, total physical response, and providing background knowledge or review of vocabulary • Teach students to use graphic organizers (e.g., a strategy for planning, organizing, and tracking progress toward completing a task) • Emphasize Universal Design for Learning (UDL) in the district
Individualized instruction and supports	• Special education includes two primary models: (a) a neighborhood school model for students who reside within the school's catchment area and are generally within general education classes, and (b) a district program that provides comprehensive services for SWD who experience significant emotional and/or behavioral difficulties, including those outside the school's catchment area; in this program, students have a separate homeroom, but typically rejoin general education classrooms for core subjects and specials; also includes one teacher and two paraprofessionals per classroom to provide emotional needs • Specific examples of individualized supports (e.g., including co-teaching and parallel teaching, push-in interventions, and pull-out interventions as needed, for example when the classroom may be too loud for a phonics intervention), with the goal of keeping students in the general education classroom as much as possible
Staff collaboration	• Set expectations for how to use shared planning time (e.g., review exit tickets to identify where students may struggle and what types of scaffolds or supports may be needed) • General and special educators report that there is limited time set aside for co-planning; participants describe several ways they try to overcome this challenge: (a) find time to collaborate after school, during lunch, and in the hallway, (b) use Google Docs to do asynchronous collaboration, and (c) provide substitute coverage to allow for collaborative planning
Educator supports	• Offer targeted professional development (PD) for staff (e.g., on increasing opportunities to respond) and acknowledging how these are useful for all students, regardless of need • Select and provide PD based on needs identified by State Performance Plan/Annual Performance Report (SPP/APR) indicators • Use ongoing "walk-throughs," "grows and glows," and coaching with educators to discuss what is working and what adjustments need to be made • Provide mentorship to novice teachers • Provide a robust team to support students and staff (e.g., counselors, social workers, consulting teachers, instructional specialists, and related services providers) • Develop a "healthy climate" in which people "work hard, but they care about each other, and they support one another," hiring based on need as well as ability to "mesh well with the staff" already in place



School D	Data
	- Recognize a need for additional supports for general educators, in particular, to learn more about special education - Paraeducator certified in the Orton-Gillingham approach has become the “go-to” person for intervention with Orton-Gillingham
Family engagement	- Use interpretation services intentionally (e.g., a transmitter microphone and headsets that enable families whose first language is not English to sit anywhere they want in a meeting and hear the interpretation) - Reduce barriers to engagement (e.g., provide flexible times, transportation, childcare, food); put entire staff on buses and go out into the neighborhoods to meet with families - Offer priority conference scheduling for families of SWD - Hold various events (e.g., Arts Night, Word Cultures Night, STEM Night) - Recognize the importance of building relationships at small, informal touchpoints (e.g., at pick up and drop off) - Offer a Family Support Center to provide information and resources and to support parents through the IEP process
Strong school leadership	- Central office supervisors provide guidance to schools for master scheduling and how to use shared planning time, including planning across different student service groups such as SWD and emergent multilingual learners - Conduct leadership walk-throughs (e.g., informal observations) - Emphasize positive mindsets (e.g., that all students belong) from leadership on down - Include families and communities in leadership and decision making (e.g., through a Special Education Citizen Advisory Committee, which includes central office administrators, families, and advocacy group members)
Collective efficacy	Little to no explicit discussion of this in the data collected
High expectations	- Ensure disabilities are not barriers to completion of advanced level coursework - Leaders hold and model high expectations and the belief that all students belong
Data literacy	- Collect input from and engage in data analysis along with a variety of constituents (students, families, staff) - Student surveys to provide input on engagement, well-being, culture, and climate that informs strategic priorities and the school improvement plan - Engage students in their own goal setting and assessment of progress - Track data on student attendance as well as family attendance at events - Constantly evaluate intervention data to understand how Tier 2 and 3 interventions are going - Provide biweekly data updates for conversations and meetings with parents and families

Note. SWD = students with disabilities; ED = economically disadvantaged; LEP = Limited English Proficiency; Ppts = percentage points; ELA = English language arts; IEP = individualized education programs. For comparison purposes, state proficiency rates were calculated based on the same grade levels as those served in the BTO school. Data



sources are the 2021–22 school-level files available at Ed Data Express ([Data Download Tool | Ed Data Express](#)) and the National Center for Education Statistics Common Core of Data ([Common Core of Data \(CCD\) - CCD Data Files](#)).

Exhibit B5. Data of School E

School E	Data
General school information (2021–22)	- Western United States - Town-remote (territory inside an urban area with population < 50,000; > 35 miles from an urban area with population of ≥ 50,000) - Middle (Grades 6–8) - Approximately 400 students; student–teacher ratio approximately 13 12% SWD, 24% ED, and < 1% LEP 85% White, 11% Hispanic or Latino, 4% Two or More Races, and < 1% other
School performance on 2021–22 state assessment	- SWD math proficiency rate was 9 ppts > the same rate statewide (and 5 ppts > predicted by our BTO residual analysis using multiple regression) - SWD ELA proficiency rate was 15 ppts > the same rate statewide (and 13 ppts > predicted by our BTO residual analysis using multiple regression) - Overall math proficiency rate was 19 ppts > the same rate statewide - Overall ELA proficiency rate was 12 ppts > the same rate statewide (See Exhibit 6)
Student belonging	- Develop the staff mindset/culture that all students are the responsibility of all staff, regardless of staff role or student disability status - Prioritize engagement in extracurricular activities within and outside of school, with a goal of 95% participation; track progress toward this goal and identify opportunities for students who are currently not engaged
Evidence-based general education instruction and supports	- Discussion primarily focused on access to the general curriculum and high-quality core instruction - Strategically use limited resources (e.g., three paraprofessionals for the cost of one certified staff member) - Provide, often, a student–teacher ratio of 3-to-1, “flooding the classroom with support” - Use master scheduling that allows for student interventions and support such as an individualized “What I Need” (WIN) period and ability to be in multiple grade levels of math or ELA in the same day - Use graphic organizers such as study guides before each test and chunking for larger assignments - Provide positive behavioral interventions and supports include positive behavioral reinforcements (i.e., rewards)



School E	Data
Individualized instruction and supports	• Use a WIN period for remediation, intervention, and enrichment, that nearly all students in Grades 6–7 participate in • Discussion of additional individualized supports including high-level discussions of accommodations, assistive technology, and a “life skills light” replacement curriculum for reading, writing, and math • Use instructional technologies (e.g., digital textbooks with speech-to-text or a font intended for use with students with dyslexia) that are accessible to all students rather than singling someone out
Staff collaboration	• Provide weekly dedicated time for general and special educators to collaborate; include special educators in grade-level teams and PLCs • Set clear expectations for what should be happening in each team meeting • Develop informal and flexible ways of collaborating throughout the day, including on shared documents; “everyone has an open-door policy” and “welcome communication various times, all times throughout the day”
Educator supports	• Hold two large meetings for special educators (at the beginning of the school year and after the winter holidays) to talk through new processes and procedures • Related service providers provide training for other educators • Offer book studies for staff and even for school board members • Offer bite-sized professional learning like podcasts and condensed/summarized versions of books; have educators present briefly on various topics • Leaders attend to preventing staff burnout • Provide supports for mental health and self-care like a “30-minute out card” (e.g., to leave 30 minutes early on a Friday). • Recognize that special educators, life skills teachers, and paraprofessionals need more support because they work hard, and it is a high-stress high-burnout job • Develop a positive, supportive culture in which staff take care of one another, described as an “amazing school family” and that people “go above and beyond every day for each other and for kids” • Develop a culture of willingness to take risks, to make mistakes, and learn and grow from them • Make celebration a priority; weekly team agendas start with celebrations of both student and teacher successes
Family engagement	• Use regular, personal contact with families; daily calls or texts for some students • Provide a special education “Cottage” with a variety of resources for parents • Welcome parents “with open arms”; provide school tours and multiple touchpoints to tour the school and meet who their child will be working with • Hold a Special Education Night with two to three presenters on high interest topics; provide free food to encourage entire families to come to the school



School E	Data
Strong school leadership	• Leaders encourage staff to learn and find answers if staff have questions • High expectations starting from the top, with the Board of Education; even board members go to conferences and professional learning, so they can “walk the walk and talk the talk” • School leaders are “with the kids every day” (e.g., at recess, lunch), know all students’ names, and set the model in terms of mindset and culture (they “live it” and “breathe it”) • Leaders “jump in and help out”; “nobody’s above any job here,” whether it is wiping down a table or anything else
Collective efficacy	• “We just all work together to raise these kids to become the best that they can be” • “So much support that there’s no way these kids can fall through the cracks” • Collective efficacy as connected to closing the achievement gap, with educators who are “caring individuals who won’t give up on [students]” and a whole-team approach—if something is not working, they will try it a different way
High expectations	• Exiting students from special education (e.g., moving them to 504s, when appropriate) became a goal in recent years • Do not allow special education to become a trap; support students with the goal of enabling them to function on their own, for example in college
Data literacy	• Use data to drive decisions; monitor progress; and be open to reflect, learn, and do something different to continuously improve • Principal surveys staff annually about their satisfaction and areas for improvement

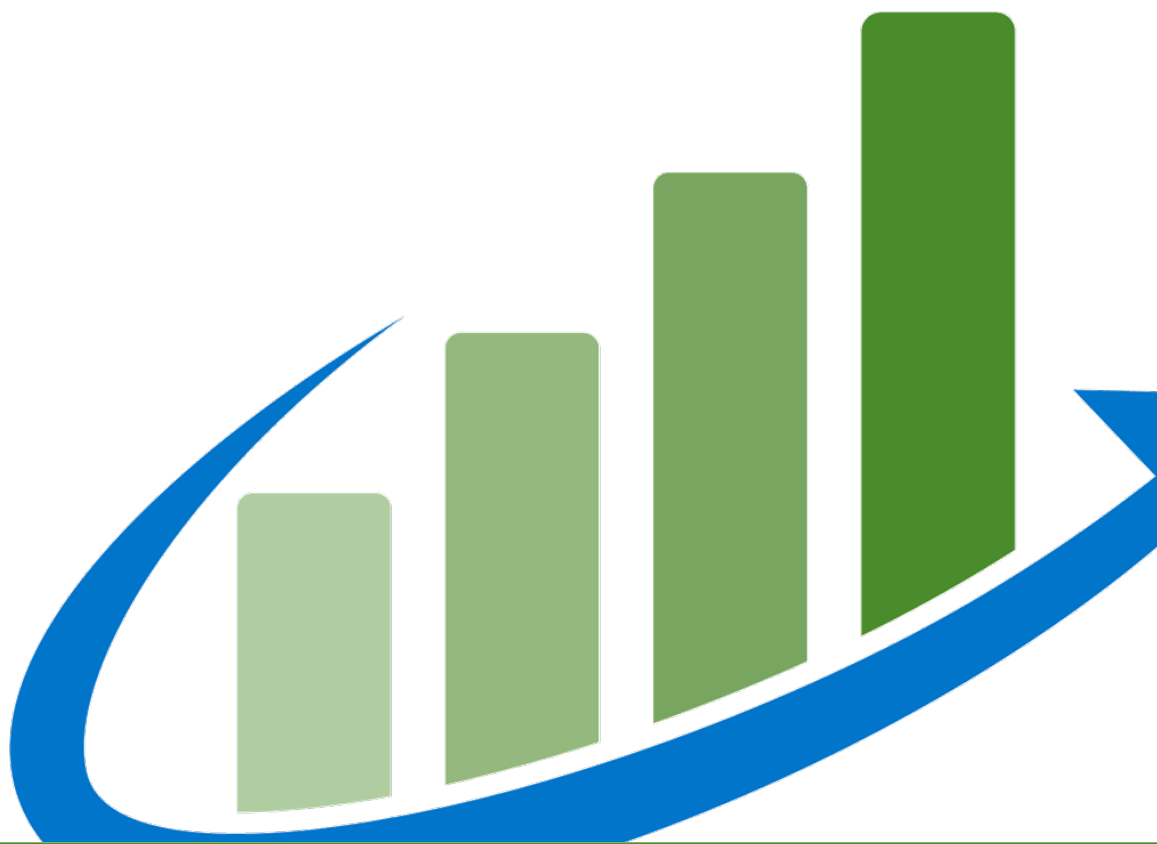
Note. SWD = students with disabilities; ED = economically disadvantaged; LEP = Limited English Proficiency; Ppts = percentage points; ELA = English language arts; PLC = professional learning community. For comparison purposes, state proficiency rates were calculated based on the same grade levels as those served in the BTO school. Data sources are the 2021–22 school-level files available at Ed Data Express ([Data Download Tool | Ed Data Express](#)) and the National Center for Education Statistics Common Core of Data ([Common Core of Data \(CCD\) - CCD Data Files](#)).



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