

Improving Outcomes and Equity for Students with Disabilities and Other Students who Struggle

Troy School District

December 2023



Introduction

Troy School District engaged New Solutions K12 (NSK12) to conduct a systematic study to review the district's special education supports and services for K-12. Many students have struggled through the pandemic, and unfortunately, many struggled before COVID as well. Districts are challenged to address learning loss and trauma. The district has much to be proud of and like all districts, still more to do. This report serves to address ever-higher expectations and the lasting impact of the pandemic on student learning.

In all cases, the review recognizes that increasing student achievement, meeting the social and emotional needs of students, managing costs, and respecting children, parents, and staff are equally important. Addressing one, while ignoring the others, is not an option.

The systematic study also respects the reality that school systems are complex organizations tasked with a multitude of expectations, unfunded mandates, priorities, and responsibilities. To that end, only a small number of high-potential, high-impact, and high-leverage opportunities are identified. A short, targeted plan is more beneficial than a long laundry list of observations, options, and possible actions.

New Solutions K12 will work alongside the district to review this information and determine the appropriate next steps for implementation and improvement. Not all areas for further consideration listed in the document can be addressed at once. If the district were to pursue any of these areas further, it would typically take 1-3 years of careful planning, research, communication, coordination, and roll-out, with a commitment from the leadership to provide focus and stability during the implementation process.

Methodology

The research conducted included extensive in-person and virtual interviews and focus groups, a deep look at hard data, classroom visits, benchmarking against best practices, and a review of existing reports and district documents. Many special education staff also documented and shared their schedules electronically to provide insight into how they spend their time in a typical week.

New Solutions K12 has developed a comprehensive approach for identifying high-impact opportunities to improve services and outcomes for students who struggle, both with and without IEPs. Multiple analyses and rounds of stakeholder engagement were conducted to examine the services, programs, procedures, schedules, and staffing related to special education, general education, and intervention.

Stakeholder Engagement

Stakeholder engagement was an important element of this review. It included two rounds of engagement. The first round of engagement included all senior district leaders and building principals with the purpose of forming a preliminary understanding of the district's current strengths and challenges. New Solutions K12 also met with a guiding coalition that included teachers, staff, and leadership from across the district.

In the second round of engagement, New Solutions K12 spoke with general education teachers, special education teachers and staff, related service providers, counselors and psychologists, parents of students with disabilities, members of the school board, and Educator Association leadership. The purpose of this round was to build a broad and deep understanding of the current strengths and challenges in supporting students who struggle from a wide range of stakeholder groups. A number of follow up interviews were also conducted to address specific questions or issues identified from the initial two rounds of stakeholder engagement.

New Solutions K12 indicated the roles to be included in the stakeholder engagement, and the district identified a representative sample of participants, ensuring voices from elementary, middle, and high school stakeholders.

In total, New Solutions K12 spoke with over 130 Troy School District teachers, staff, leaders, and parents/families.

Data Analysis

New Solutions K12 reviewed multiple datasets from the district. The datasets for this analysis included both current and historical data points and encompassed a variety of topics, including:

- Academic performance of students
- Student enrollment
- Student identification rates for special education services
- Enrollment and staffing in substantially separate programming
- Out of district placements

- Staffing levels by type of staff and service
- District spending
- Self-reported schedules/use of time from select special education staff

Best Practices

An important element of this review is to compare and contrast current practices to best practices. New Solutions K12 and its leadership have dedicated over two decades to reviewing thousands of educational research studies and have conducted a number of primary research studies for leading educational think tanks and educational foundations including the Fordham Foundation, Center for American Progress, and the American Enterprise Institute. Key research includes:

- Recommendations of the *What Works Clearing House*, a leading source for field-proven best practices and other published studies.
- Recommendations of the National Reading Panel and The Science of Reading, the preeminent source for reading instruction, especially for students who struggle academically.
- John Hattie's "Visible Learning Effect" size study.
- Six Shifts for Improving Special Education and Other Interventions (Harvard Education Press, 2020).

A more comprehensive listing of the best practice research is found in the appendix.

Our recommendations also draw upon our experience working with over 250 school districts in 30 states, including many that outperform expectations. Finally, we have visited and studied roughly 100 schools that have dramatically closed the achievement gap.

Executive Summary

Commendations:

- 1. Teachers are hardworking, dedicated, and caring.
- 2. The district has the faith and confidence of its parents and the community.
- 3. The district has a deep understanding of reading best practices, particularly at the elementary level.
- 4. The elementary Multi-Tiered System of Support (MTSS) process is well defined and consistently implemented.
- 5. The district has the desire and ability to serve students with severe needs in district with its broad range of supports and services.

Opportunities:

- 1. Expand the reach of elementary reading specialists to support more students who struggle.
- 2. Build general education teacher capacity to take greater responsibility for all students' success.
 - 2A. Ensure students with mild to moderate disabilities are working towards the same standards and utilize the same curriculum.
 - 2B. Expand instructional coaching to reach a greater number of teachers.
 - 2C. Improve integration of Special Education, ELD, and General Education by shifting responsibility for academics for nearly all students to the general education teaching and learning team.
- 3. Create comprehensive and coherent schedules at the elementary level to define and include sufficient time for tier 1, tier 2, and intervention.
- 4. Implement best-practice interventions at the secondary level for all students who struggle academically.
 - 4A. Embrace extra time intervention from content strong teachers for students with disabilities.
 - 4B. Create a sense of urgency for change.
- 5. Further align what is "loose" and what is "tight" across schools in the district to accelerate implementation of recommended best practices.

Commendations

1. Teachers are hardworking, dedicated, and caring.

The district's teachers and staff exemplify dedication and compassion in their daily work, consistently going above and beyond to foster a nurturing and stimulating classroom environment for their students. Their commitment to student success and well-being is a testament to their professionalism and deep care for the students they serve.

School and district leaders praised the dedication and hard work of the teaching staff, while parents noted their caring and commitment. The energy and passion of all teachers and staff came through in the interviews.

2. The district has the faith and confidence of its parents and the community.

Families and the community are happy to be part of the district. They are highly vested and are proud of the accomplishments of the school system. Community members shared that Troy is "the place many families want to be" and they are grateful to be a part of it. As a result, they generally hold high regard and trust in district and building leadership, as well as the teachers that serve their children.

3. The district has a deep understanding of reading best practices, particularly at the elementary level.

Reading and English Language Arts curriculum and instruction at all levels is a clear focus area. District leadership has demonstrated a deep understanding of the science of reading and implements these practices consistently and at scale. Senior leadership has been recognized as leaders in this area.

This expertise and commitment to literacy has led to consistently-impressive ELA and reading achievement scores. Both the district leadership and many staff involved in the literacy effort have deep understand and deep commitment to reading best practices.

3rd Grade Reading Scores

All Students

School Year	% of Students Proficient or Above		
2018-2019	74%		
2020-2021	67%		
2021-2022	69%		
2022-2023	66%		

4. The elementary Multi-Tiered System of Support (MTSS) process is well defined and consistently implemented.

The district's Multi-Tiered System of Support (MTSS) process is clearly defined and well-implemented districtwide, which creates a cohesive and effective approach to student support. While nearly every school system in the country has put in place MTSS, most struggle to use it effectively or consistently. The district stands out for the clarity and structure of its MTSS program. Most teachers and staff at the elementary level shared that the MTSS structure has been successful and impactful for both students and teachers. The program, coupled with the deep understanding of literacy best practices, has contributed to the high level of reading achievement.

5. The district has the desire and ability to serve students with severe needs in-district with its broad range of supports and services.

Serving students with a wide range of needs, including students with severe special needs, coupled with sufficient resources, has afforded the district the ability to develop and coordinate an impressive continuum of services. The district has a robust number of categorical programs available at each school, targeted to specific disabilities and student needs. Through these well designed and well appreciated programs and services, very few students are required to attend out of district programs.

Opportunities:

1. Expand the reach of elementary reading specialists to support more students who struggle.

Reading is the foundation of all learning for students and unlocks academic success in other subjects as well. Teaching reading is both an art and a science, and delivering effective reading instruction requires a high level of content expertise and skill. Staff with deep expertise in teaching reading are a critical asset to any school. Students who struggle benefit greatly from their expertise as interventionists and all students benefit when these experts help classroom teachers hone their craft.

Yet, too often, students with disabilities, including those with a reading disability, do not benefit from these experts, compared to students without disabilities.

The district is committed to prioritizing reading for its elementary students and has dedicated significant resources towards this effort. As an example, the district has 17 talented Literacy Specialists across its elementary schools focused on supporting students who struggle with reading. The Literacy Specialists provide 1:1 support to the 4 lowest-scoring students for 30 minutes every day, focusing on first graders for 20 weeks.

Additionally, some elementary schools in the district have an intervention block built into their schedules, which allows the Literacy Specialists to push in or pull out and work 1:1 or in small groups with struggling readers during the intervention block. In other buildings, the Literacy Specialists provide push-in support during the core reading block to support students who struggle in the general education classroom and continue to work with them during independent reading or small group guided reading. This kind of hyper-focused reading support from highly-skilled reading teachers has benefited many students greatly.

Many students are faring well, but students with disabilities lag behind.

Third grade reading scores for the district are well above both the county and state averages. Students who are economically disadvantaged scored much higher than the county average for students in that sub group as well, which is a well-deserved source of pride for the district.

2021-2022 3rd Grade Reading % Proficient or Above

Economically Disadvantaged

All Students

Economically
Disadvantaged

Troy School District

69%

49%

Oakland Country (Average)¹

51%

30%

¹ Source: https://www.mischooldata.org/grades-3-8-state-testing-includes-psat-data-proficiency/

While many students in the district are succeeding academically, not all are. Students with disabilities are not benefitting from the expertise and excellence of the district's reading efforts. Students with disabilities are served via a "parallel" system that focuses more on special educators and paraprofessionals than the classroom teacher, MTSS, and Literacy Specialists.

2021-2022 3rd Grade Reading % Proficient or Above

Students with Disabilities

	All Students	Students with Disabilities	
Troy School District	69%	30%	
Oakland Country (Average)	51%	22%	

Expand the reach of Literacy Specialists.

The reach of the highly-talented Literacy Specialists is severely limited with the current structure of supports. Most notably, students with mild to moderate disabilities do not typically receive support from the Literacy Specialists during the intervention time or during small group push in/pull out. Instead, they receive much of their reading instruction from special education teachers, many of whom are not trained in reading best practices or trained as deeply as the Literacy Specialists.

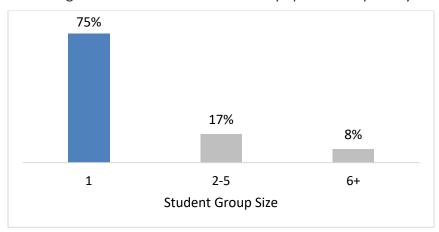
Students in the district with mild to moderate disabilities would benefit greatly from an expanded structure of reading support that allows Literacy Specialists and other highly effective teachers of reading to work with more students.

In other districts, highly skilled full-time reading teachers who are focused solely on teaching reading help 30-45 students per week. These higher caseloads are driven by an appreciation for the impact each teacher can have, the desire to impact more children, and the research that intervention with larger groups, so long as the groups are formed with students with similar needs, is highly effective.

Based on the self-reported schedule sharing exercise, 75% of the literacy specialists' time spent with students is 1:1 support. Just 17% of their time with students is with groups of 2-5 students, and only 8% of their time with students is spent with groups larger than 5 students.

Literacy Specialist Student Group Size

Percentage of Direct Service Time Literacy Specialists Spent by Group Size



Research has shown that in comparison to intervention group size, the training and background of the instructor, the length of intervention time provided, and the type of instruction presented during intervention, are more significant factors for increasing student achievement.² As a result, proactively managing intervention group size becomes a mechanism by which a district can expand the reach of its highly skilled teachers of reading.

- Studies by the What Works Clearinghouse have shown that small instructional groups of up to 5 students have been as effective as one-on-one instruction.³
- Similarly, the National Institute of Health has shown that groups of 3 students can be as effective as one-on-one instruction, and that even groups of up to 10 students can provide benefits, although with smaller outcomes on achievement. (Notably, this study did not test or include groups of 4-9 students).⁴
- More specifically, the RTI Action Network recommends utilizing groups of 5-8 students for the
 majority of struggling of students (~15% of all students receiving 30 minutes of additional
 instruction 5x a week) and recommends smaller groups of 1-3 students for only students with
 severe reading disabilities (approximately ~3% of all students).⁵

² Vaughn, S., Wanzek, J., Murray, C. S., Roberts, G. (2012). *Intensive interventions for students struggling in reading and mathematics: A practice guide*. Portsmouth, NH: RMC Research Corporation, Center on Instruction.

³ Gersten, R., Compton, D., Connor, C.M., Dimino, J., Santoro, L., Linan-Thompson, S., and Tilly, W.D. (2008). *Assisting students struggling with reading: Response to Intervention and multi-tier intervention for reading in the primary grades. A practice guide.* (NCEE 2009-4045). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides/.

⁴ Vaughn, S., Denton, C., & Fletcher, J. (2010). Why Intensive Interventions Are Necessary For Students With Severe Reading Difficulties. Psychol Sch., 47(5), 432-444. doi:10.1002

⁵ Harlacher, J., Sanford, A., & Walker, N. (2015). Distinguishing Between Tier 2 and Tier 3 Instruction in Order to Support Implementation of RTI.

In keeping with this research, an average group size of five students is very common as it allows students to succeed while providing interventions in a manner which maximizes available resources.⁶

A shift to this structure would need to be carefully coordinated with how Literacy Specialists split their time between literacy intervention and instructional coaching (see opportunity 2C for more details).

Restructure funds and positions to add more reading experts.

Beyond just increasing group size, there is a need to support more students K-5. Research has indicated that starting intervention in kindergarten is most impactful and for students struggling to read in upper elementary grades, extensive and sustained intervention is needed.

To provide reading support to a greater number of students, including those with mild to moderate disabilities, the district can consider reducing, through attrition, the use of less skilled, non-certified staff and increasing the number of highly skilled, certified teachers. This reallocation can occur through attrition over time so that no one loses their job in the process.

Best practice calls for students with mild to moderate disabilities to receive 100% of core instruction, plus extra time intervention from highly skilled teachers of reading. Too often in the district the opposite takes place. Students with disabilities are pulled from core instruction (or push in support distracts from core instruction) to receive alternative instruction in the resource room.

To be sure, many special educators are skilled interventionists with deep understanding of reading and other content areas. They should, of course, continue to provide interventions for these relevant subjects. Others have a desire to become more skilled and a genuine interest in certain content areas and the district should invest in building their capacity. Finally, some special educators have other skills and they should be allowed to focus on playing to their strengths outside of deep content expertise as well.

If the support model shifts from pulling students with disabilities into a resource room for reading support to keeping them in the general education classroom plus receiving support from teachers with content expertise (i.e., Literacy Specialists and highly skilled special education teachers), fewer paraprofessionals or student support aides will be needed. All shifts in staff should be thoughtfully managed through natural attrition and no one should lose their job as a result of these changes.

The district currently spends over two million dollars (\$2,000,000) on student support aides across the district, plus 100 contracted full-time paraprofessionals. Every special education resource room is currently staffed with at least one full-time student support aide and every categorical room has at least two full-time paraprofessionals. Without a doubt, student support aides and paraprofessionals are compassionate, well-meaning, and hard-working employees. However, they are not experts in teaching reading.

Paraprofessionals play a critical role in behavior support, programs for students with severe disabilities, and health and safety support. They will remain critical to serving students with special needs, but not for supporting academics, especially reading, for students with mild to moderate disabilities.

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⁶ Vaughn, S., Wanzek, J., Murray, C. S., Roberts, G. (2012). *Intensive interventions for students struggling in reading and mathematics: A practice guide*. Portsmouth, NH: RMC Research Corporation, Center on Instruction.

A note of consideration: Rename the effort in the district?

Reading and the science of reading has become highly political in the U.S. The district has rightly adopted best practice reading practices (including a focus on phonics and not using the three queuing techniques).

However, the district often describes its reading program using language that is not aligned to widely accepted best practices. The names Reading Recovery and Fountas and Pinnell are associated with practices that have fallen out of favor, connected to some less than best practices and now connected to the controversy of reading instruction.

While the district literacy plan was once based heavily on these resources and approaches, the district has modified them, kept the best of them, dropped some elements, and added other needed elements. At this time, the district uses best practices but referrers to them with names no longer associated with best practices. This disconnect could cause eventual push back from parents, teachers, and others, so renaming the district's reading program may be of interest.

2. Build general education teacher capacity to take greater responsibility for all students' success.

General education is the foundation for all students, including students with mild to moderate disabilities. To improve outcomes for students with mild to moderate disabilities, general education teachers must believe both that general education core instruction matters most for all their students, and that they themselves are well-equipped to teach students with special needs. All districts that have significantly closed the achievement gap for students with mild to moderate disabilities have had general education teachers play a major role and take primary responsibility for all students' academic success, including those with learning disabilities. These districts widely embrace the idea that students with disabilities are all general education kids first, and it is a shared responsibility to help them achieve at high levels.

Special education teachers feel alone in their efforts to support students with disabilities.

While all teachers in the district care deeply about all students, many general education teachers do not feel they are best suited or have the confidence to teach students with disabilities. Indeed, one high school teacher shared, "We often don't know how to help them." Other teachers and staff shared that there exists a mindset of "your students" vs. "my students" between general education and special education.

Again, this is not due to a lack of caring on anyone's part, but a belief that students with IEPs need something different, and that special education teachers are the ones who can provide what's most needed for them.

There is also a concern that teaching students with disabilities would impact the learning of other students. According to one classroom teacher, "(We) would have to slow down and re-teach content (for students with disabilities), which prevents us from moving through the curriculum as fast as we need to."

Special education teachers feel the pressure placed on them too. One such special education teacher said, "I would change a shifting of ownership from just special education to everyone: gen ed, administration, and special ed. This would place less pressure on special education to 'fix' problems, which we can't (by ourselves). We're on an island."

2A. Ensure students with mild to moderate disabilities are working towards the same standards and utilize the same curriculum.

The goal of special education, for nearly all students with an IEP, is mastery of the same grade level content, skills, and standards as their nondisabled peers. Special education should be a support towards this goal, not a path to a lesser goal.

The special education department currently uses a "toolbox" approach by providing special education teachers with many options to choose from for curriculum and intervention resources and approaches for students with disabilities. While some teachers appreciated the flexibility of different options, most

shared that they are overwhelmed by the choices and that their curriculum options often didn't align with the general education curriculum and standards.

This approach makes it difficult for special education teachers to provide targeted support that reteaches misconceptions or pre-teaches upcoming grade level material for students who struggle.

Many special education teachers also shared that because they don't have access to the core curriculum, they feel their time isn't as valuable as it could be in the general education classroom, when pushing in or providing co-taught support. This mindset was reinforced by one secondary-level special education teacher: "We aren't familiar with the core curriculum so we're not able to provide in-depth support for students during class. Often, we're just an extra set of hands in the room but not providing true content support." Further, another secondary special education teacher shared, "Sometimes I feel like I'm sitting in physics class learning alongside the rest of the students since I've never seen this curriculum before."

Many of the items in the tool box are misaligned to the general education curriculum or "watered down." Using a single curriculum for both tier 1 core instruction and intervention supports will better align special education services and supports with the general education core standards and keep the focus on reaching the same goal — mastery of grade level material.

Implementing a consistent curriculum between special education and general education that ties intervention efforts directly to core general education content will also empower special education teachers to provide more effective and aligned support.

2B. Expand instructional coaching to reach a greater number of teachers.

Not all general education teachers will feel ready, confident, or well-equipped to take on a greater role in the academic success of all students right away. Though most teachers already have the skills for high-quality teaching and learning for all students, many don't feel that can teach students with a disability for a host of reasons. One of the most common is a belief that only special education teachers can teach students with disabilities because special, unique, and unknown practices and strategies are required.

In reality, what students with mild to moderate disabilities need is similar (nearly identical) to what other students who struggle also need. This is sometimes called Universal Design for Learning (UDL) or simply "good teaching is good teaching." These practices can help reinforce the notion that all students, including those with disabilities, are general education students first and it is a shared responsibility to help them learn.

General Education (and Special Education) Teaching Best Practices Include:

- Begin a lesson with a short review of previous learning.
- Present new material in small steps with student practice after each step.
- Ask many questions and incorporate multiple opportunities for student response.
- Think aloud and provide models.
- Guide students as they begin to practice.

- Check for understanding and provide systematic feedback and corrections.
- Provide scaffolds for difficult tasks.
- Have students express their ideas verbally as scaffolding for writing.
- Provide ongoing opportunities for review and practice.
- Teach skills & strategies that increase self-determination so students achieve their goals with greater independence.
- Clear and tight alignment between instruction and what students should know and be able to

Job-embedded coaching super-charges core instruction for all students and build's teacher confidence.

Instructional coaching, when implemented well, is the single most effective means to improve core instruction and general education teacher capacity. Other means of support, such as professional development and teacher evaluations have not been as effective in building capacity and changing practice. Expanding instructional coaching in the district will super-charge core instruction and empower general educators to play a more central role in supporting students with mild to moderate disabilities.

Coaching and intervention both need to happen at scale, however. Some districts separate these responsibilities into different roles while others find success having staff split their time 50/50 on these efforts. In either scenario, the district needs to be deliberate on the role and time expectations for folks in coaching roles.

At the elementary level, the district currently has 17 literacy specialists who also serve as instructional coaches in their schools. Elementary teachers shared that the literacy specialists are seen as extremely valuable resources in their schools and are well respected by all.

However, teachers and literacy specialists alike agreed that because of the demanding responsibilities of being both an interventionist and a coach and spending much of their time working 1:1 with students, the literacy specialists spend little time actually coaching teachers. In fact, according to the time study analysis, literacy specialists spend just 12% of their time providing job-embedded coaching for teachers in the classroom.

One elementary literacy specialist put it this way, "The most impactful thing we can do as coaches is provide on the job coaching and modeling in a teacher's classroom, but there often just isn't time for it." Given the limited time available for coaching, some schools limit coaching only to new teachers or selected grades.

The district, in partnership with the literacy specialists and school leaders, should clearly map out a reasonable set of use of time expectations for interventionists and coaching. Questions to consider include:

- How many hours per week should be dedicated to coaching versus intervention?
- How many students served and how many teachers supported in a week?
- Which teachers should receive coaching?

- What tasks should not be asked of coaches and interventionists?
- Should these roles be combined or split?

Based on these clearly defined and agreed upon use of time expectations for literacy specialists, district and building leaders can more carefully manage the time of their literacy specialists. By limiting their time spent on "other responsibilities," which includes activities like meetings, paperwork, and preparing materials, literacy coaches can dedicate the bulk of their time to supporting students and coaching teachers. Currently, literacy specialists are spending a quarter of their workweek on other-job related activities, compared to just 12% of their time coaching.

Literacy Specialist Use of Time

Percentage of Work Week Spent by Activity

	Direct Service with Students	Other Job-Related Activities*	Job-Embedded Coaching for Teachers	IEP-Related Activities	Other & Unreported Time**
Literacy Specialists	42%	25%	12%	2%	19%

^{*}Other Job-Related Activities include: paperwork (other than IEP/504), attending meetings (other than IEP/504), supporting staff (planning, reviewing data), collaborating with colleagues, professional development (facilitating or receiving), curriculum development, planning, prepping materials, researching best practices, and parent/community communication

At the secondary levels, Math and English coaches exist through a split-responsibilities approach (part time teacher and part time coach), but time spent to provide coaching for teachers is limited as well. Even though they too are generally highly regarded among staff, many teachers shared that they feel that the model is ineffective at the secondary level.

Secondary level coaching is always more difficult as the content changes from course to course, and no coach can be an expert in all the content even in one department. Therefore, at the middle and high schools, it can be more effective to target instructional coaching towards pedagogical best practices for classroom teachers, in the framework of "good teaching is good teaching." This could greatly increase teacher confidence and awareness of taking a larger role in the learning of students with mild to moderate disabilities.

2C. Improve integration of Special Education, ELD, and General Education by shifting responsibility for academics for nearly all students to the general education teaching and learning team.

In order to operationalize a number of the opportunities, including integrating general education standards, unifying the curriculum, expanding the use of best practice reading strategies to students with disabilities, and increasing the role of general education staff in the education of students with mild to moderate disabilities, it will be easier to merge practices by also merging leadership of these efforts.

^{**}Other & Unreported Time includes: Lunch, school duties, travel between buildings, and workweek time not accounted for in the self-reported time study.

As the district moves to become more coherent in its support for *all* students who struggle, and a belief that students with mild to moderate disabilities are general education students first, a new organizational chart that reflects this approach can help ensure successful implementation of these recommendations.

The district's current organizational chart, like most districts, separates special education from the rest of the teaching and learning team. Essentially, the general education teaching and learning team is responsible for all things related to general education students but has only a tangential role in educating students with mild to moderate disabilities.

The special education team has an incredibly broad charge to manage every aspect of serving students with special needs. This includes supports for academic achievement, behavior, compliance, IEPs, managing paraprofessionals, and programs for students with significant needs. Few, if any leaders, in the country can be experts in all of these areas. No one person or small team can easily manage so many disparate areas.

Special education leaders shared they feel pulled in too many directions, are asked to be part of too many teams, meetings, and efforts and expressed a need for more special education administrators to cover all their responsibilities. They also shared that they don't always feel like an equal partner in many of these meetings.

This siloed organizational chart further reinforces the mindset of "my students" vs. "your students" when it comes to curriculum, instruction, programming, and overall academic success.

The district should consider an organizational chart that centralizes the leadership of *all* academics for *all* students, with the exception of students with more serve needs. This means the Teaching and Learning Department will oversee all things teaching and learning for all students, including for students with mild to moderate disabilities. This includes developing, sharing, training, and managing the implementation of best practices for core instruction, intervention, and special education academic support, in collaboration with the special education department. Doing this truly reinforces the district's efforts "to prepare *all* students for every opportunity through collaboration, deep learning, and focus," consistent with its commitment to the community.

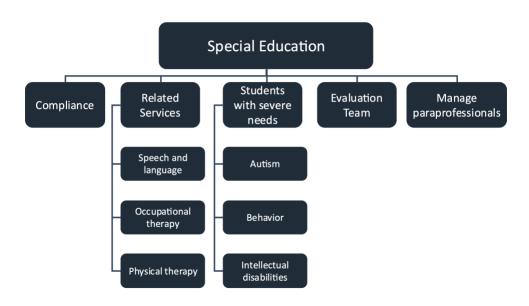
In order to bring best practices to students with mild to moderate special needs, the district-wide teaching and learning team must also have meaningful input into what academic supports are written into IEPs, in collaboration with the special education department.

Figure 1. A new Teaching and Learning organizational chart



Special education leadership will remain an important partner to the Teaching and Learning team and will stay in charge of identifying and evaluating students with disabilities, writing IEPs, ensuring compliance, overseeing categorical and district programs, and managing related services staff and paraprofessionals. This new set up will assign responsibilities based on area of expertise rather than title or department, and will naturally bridge gaps that have long existed between general education and special education.

Figure 2. A new Special Education organizational chart



3. Create comprehensive and coherent schedules at the elementary level to define and include sufficient time for tier 1, tier 2, and intervention.

There is much to do during the school day, and not a lot of time to do it all. It's often a difficult task to figure out how to cover all of a rigorous core program, find time for classroom teachers to provide tier 2 supports to their students, provide intervention for who need it, and weave in special education and related services as well.

Best practice building schedules at the elementary level carefully outline when tier 2 will happen throughout the day, as well as how to best use core instruction time each day to ensure all the core curriculum is taught with appropriate pace for completion and rigor. Comprehensive schedules also intentionally build in extra time for intervention above and beyond what students would receive in their regular education core classes to help struggling students master the content. This also thoughtfully allows for special education, ELD, and related services to take place in ways that don't reduce a student's access to core reading and math. In short, schedules can act as a key accelerator or obstacle to implementing best practices for serving students who struggle, with and without special needs.

The district currently has a range of scheduling approaches to intervention across the elementary schools, including:

- Dedicated intervention blocks for all grades built into some schools' master schedules.
- Dedicated intervention blocks for some grade levels, but not all, built into some schools' master schedules.
- Pull-out intervention that happens during core instruction time.
- Push-in intervention support that happens during core instruction time in the general education classroom.

No clear plan for use of time.

Many teachers in the district shared that they don't know where time can be found to provide tier 2 interventions for students who struggle in their current schedules. Consequently, teachers are often expected to create their own schedules or are given guidelines that do not always accurately reflect the amount of time in the school day (i.e., some guidelines exceed the length of the school day).

Special education teachers also shared that it can be difficult to find time to meet with their students because there is no dedicated time for intervention and they rightly do not want to pull students out of core instruction. Indeed, many feel that they're trying to put square pegs in round holes when it comes to finding time to help their students.

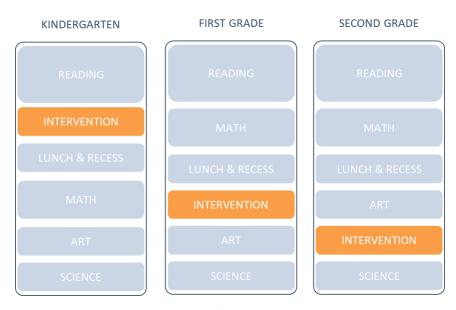
Fortuitously, there are currently some schools in the district that have embedded daily intervention into their master schedule. Unfortunately, these examples are more the exception than the rule.

To ensure all students, including students who struggle or have mild to moderate disabilities, have sufficient time for core instruction and extra-time intervention, all elementary schools will need to have intentionally designed schedules that dedicate sufficient time during the day for tier 1, tier 2, and

intervention. Detailed use of time expectations should also include how time during the reading block should be used, such as how much time each day to spend on phonics instruction which of course varies by grade.

"Flooding the grade" improves intervention.

Flooding a grade level is a great way to efficiently utilize intervention staff for providing extra-time learning for students who struggle, including those with mild to moderate disabilities. Flooding the grade is a strategy in which 4 or 5 classrooms in a single grade have intervention at the same time. As importantly, not all grades in the building have intervention at the same time.



Best practice intervention scheduling calls for the following:

One must first ensure that all classrooms at a given grade level have their intervention (and enrichment) block at the same time of day.

Next, assign all interventionists and other similar staff (e.g., special education teachers, ELD teachers, reading and/or math interventionists) to "flood" grade-level support during this intervention block. This means a large pool of staff will be available including classroom teachers, interventionists and others to support the entire grade.

Students are flexibly grouped across the grade who have similar needs and are paired with teachers who are skilled at meeting the designated need.

By staggering each grade's intervention block, all six grades (including kindergarten) can be flooded with intervention support at different times during the day. (This approach requires approximately three hours/day from each special education teacher, which leaves plenty of time for other legal/procedural responsibilities.)

Also, students, regardless of label (IEP, ELD, etc.), can be more flexibly placed into a group targeting their most pressing need. For example, one group might focus on phonics and another on comprehension. Student groups could be derived from common formative and benchmark assessments. No additional paperwork, meetings, or testing is required, which reduces teacher time on "process" and adds more

time for instruction and intervention. Furthermore, teachers and interventionists, regardless of their position or caseloads, can be assigned to groups that emphasize their strengths and expertise, not their titles.

Note: Not all school leaders are expert schedulers, nor is it reasonable to expect all school leaders to be expert schedulers. Often central office or third-party support is needed to assist in the creation of coherent and comprehensive schedules.

4. Implement best-practice interventions at the secondary level for all students who struggle academically.

In order to improve outcomes in English and math, struggling learners need to receive their core content instruction in the regular classroom, taught by a content expert. Additionally, they require extra time to learn in math or ELA above and beyond, not instead of, the core class. These extra time interventions must be taught by someone who is not only strong in the content knowledge but can apply high quality teaching methods.

These best practice intervention courses have a number of key requirements:

- Extra time, in addition to core
- Content strong teachers
- Graded/pass fail
- Credit bearing in high school
- Subject specific, direct instruction targeted to specific skill gaps
- Approximately 15 students to a class
- 40 plus minutes a day, five days a week
- During the school day

4A. Embrace extra time intervention from content strong teachers for students with disabilities

Currently in the district there are limited interventions available at the secondary level. Some view a referral to special education or a 504 plan as the best option for many students.

At the middle school level, there has recently been an increased focus on intervention, especially math intervention for students without an IEP. In prior years, the relatively small numbers of students who struggled (and did not have an IEP) were not a top area of focus. This has changed and is commendable, and the efforts are still evolving.

Current intervention supports at the middle school level for students without an IEP include:

- Small groups of students (1-3 students) pulled from core math for approximately 20-minute lessons focused on a shared area of need.
- Some days these students also receive push in support for math.
- All 6th graders receive a double block in ELA, but only a few 7th and 8th graders receive extra help in ELA.
- Content-specific extra help Strategies classes

Students with an IEP at the middle school receive co-teaching for math, but no extra time intervention. Staff and leaders shared that some co-taught teams are highly effective, but due to turnover, differences in teaching style, and depth of content knowledge, too many teams aren't truly working as

teams. We observed, and others shared, that too often the special educator on the co-taught team only checked in with "their students" during independent work time.

Students with IEPs also receive an "academic skills class" every day in grades 7 and 8, and every other day in grade 6. This class looks a bit different from teacher to teacher but is not subject specific and tends to focus more on homework help and study skills than direct instruction. These classes are grouped by case manager rather than student need or teacher expertise.

Like the middle schools, the high schools have recently increased their efforts to improve and expand MTSS. In many ways, MTSS at the high school is more of a concept and a commitment to brainstorm and help kids in need rather than specific courses or programs tied to best practices. For example, Troy High School staff meet after school to plan how best to support students in need, but they often create custom solutions, seek outside partners, or share advice.

One High School general education teacher mentioned, "There seems to be a clear disparity between elementary and secondary" when it comes to the importance and expectations placed on the implementation of MTSS.

Another opined, "Roll out of programs and guidance is very poor - what's MTSS?"

A secondary-level school counselor added, "Teachers have not been equipped to do Tier 1 well in the classroom. They're expected to, but they have no training. Until that happens, nothing will change."

The few academic interventions currently available prioritize very small groups (1-3 students) for short bursts of help, often during core instruction.

Students with special needs might also receive co-teaching as a support, or some students with mild to moderate disabilities are placed in replacement math and English classes in the form of "specialized instruction classes" taught by special education teachers. Replacement classes are courses that are taken in place of core classes taught by a general education content teacher. Consequently, students attend these classes instead of their core general education classes and are taught by a special education teacher.

Some students who struggle without IEPs receive extra-time intervention taught by content teachers.

On the other hand, students who are struggling, but do not have an IEP, are sometimes supported by content specialists in reading and math in "Strategies" classes. Reading Strategies teachers primarily use Leveled Literacy Instruction (LLI) curriculum. These classes serve a small number of struggling learners (approximately 10) but do not often include students with disabilities since "they're already getting their services from special education," according to a high school teacher.

The separation between extra time intervention for students without special needs versus those with special needs is exemplified by the Agile Mind Intensified Algebra 1 course at Troy High School. This course provides double time support (i.e., two periods of math a day), is taught by a math teacher, and is coupled with some study skills and motivation. It is a best practice approach to helping students who struggle master grade level content. However, of the 18 students enrolled, none have an IEP!

Currently the secondary schools do not have sufficient content strong FTE for best practice intervention courses, but their numbers can be increased in a cost neutral way. As non-content strong staff leave through voluntary attrition, they can be replaced with content strong staff.

Note of consideration: Most MTSS processes require teachers to refer students to an MTSS team to review data and derive tiered interventions over an established timeline. This process is not only laborious for teachers, but the process becomes teacher dependent which may mean some kids get intervention and others do not. Instead, consider using a "refer-less" MTSS process by which existing student achievement, SEL and/or discipline data are used to pre-identify students needing tiered intervention at the onset of the school year or start of a quarter or semester.

4B. Create a sense of urgency for change.

World-class school districts ensure that all their students perform at high levels, regardless of their background, label, or circumstance. They ensure that they get what they need academically and social-emotionally by both removing barriers that get in the way of their achievement, while also adding supports that ensure all students receive high quality teaching and master rigorous material and 21st century skills. World-class districts believe that so long as one group of students is failing, more work needs to be done.

Troy School District is high-achieving and well-resourced when compared to most school districts. It is also highly committed to excellence given its vision to create "world class pillars through collaboration, deep learning, and focus." At times, however, highly regarded districts like this one, have too little urgency to change; there's no "burning platform" demanding we must do better. The district's past and current success can undermine the needed energy to move to the next level. Staff and parents are rightly proud of the district's success, but they are also too comfortable with the number of students who are not as successful.

Many students are indeed achieving at high levels, but too many are not. Keeping current practices in place often means that some students receive high quality instruction while others, particularly those that need it the most, don't. And this translates to some students being given ample opportunity to achieve their post-secondary goals, while others are not.

Encouragingly, a great many leaders and teachers spoken with and observed in classrooms are ready for change. They expressed the changing needs of students generationally, the evolutions of new technologies in education, as well as the fact that status quo practices are losing their reach for many students.

Clearly, many staff are not satisfied by resting on their laurels despite an overall impressive track record of academic achievement. They also recognize the struggles that may await moving forward. One teacher noted, "We have the highest reading scores in the county. It's hard to tell teachers that things aren't working well and that they need to do more."

Another teacher added, "We're Troy! This is where families come for the best education, so it's hard to convince some teachers that anything needs to change."

School and district leaders will need balance acknowledgement of much success with a focus on better meeting the needs of all students.

5. Further align what is "loose" and what is "tight" across schools in the district to accelerate implementation of recommended best practices.

The district has been on a multiyear journey towards "one Troy," the guiding principle that the school district is a coherent system rather than a collection of schools. That said, the district has sought to find balance between what should be tight and what can be loose. Not everything need be the same, but some things are too important not to be.

This philosophy has helped contribute to the success of the district's elementary literacy efforts. It will also be critical to effectively implement some of the recommendations.

District wide expectations might be established for:

- Who receives intervention
- Who provides intervention
- How intervention fits into the master schedule
- When should special education intervention differ from general education intervention
- Workload, use of time, group size, and total students served for literacy specialists and other interventionists
- Workload, use of time, and total teachers supported for instructional coaches

These guidelines can (and should be) set in an inclusive way, and might differ by grade level (elementary, middle and high) with teacher and school leadership input. Once set though, all should be expected to utilize the agreed upon expectations.

Next Steps

These opportunities, as a set, represent a practical path forward to dramatically improve student outcomes. It builds on current strengths and respects past and current efforts already underway. It also respects and acknowledges the pressures general education teachers are feeling from the aftermath of the pandemic. While every opportunity would be beneficial, collectively they represent a great deal of work and change. It is unlikely that the district has the bandwidth to move forward and implement every recommendation over the next few years. It is better to do a few things well, than many things not so well. Further prioritization is recommended.

Suggested next steps are:

- Share and discuss findings with district leadership
- Share and discuss findings with guiding coalition
- Facilitate prioritization meetings and discuss initial steps for implementation

Appendix

Supporting Research on Special Education and Students Who Struggle Academically Best Practices

Broad Theory of Action & Strategies

- Accountability in Action. The 90/90/90 Schools: A Case Study. Chapter 19.
- American Psychological Association. (2015). Top 20 Principles from Psychology to PreK-12 Teaching and Learning. Coalition for Psychology in Schools and Education.
- Freedman, M. K. 12 Points.
- Hattie, John. Visible learning: A synthesis of over 800 meta-analyses relating to achievement. Routledge, 2013.
- Hehir, Thomas; Grindal, Todd; Eidelman, Hadas. (April 2012). "Review of Special Education in the Commonwealth of Massachusetts." Report commissioned by the Massachusetts Department of Elementary and Secondary Education.
- Levenson, N. Raising student achievements while lowering costs. Best practices from across the country. District Management Council.
- Levenson, N. (2011). Something Has Got to Change: Rethinking Special Education. Working. AEI. Future of American Education Project.
- Levenson, N. Six Shifts to Improve Special Education and Other Interventions, Harvard Education Press, 2020. (Book)
- New Jersey School Boards Association. (March 2014). Special Education: A Service, not a Place. Final Report. Task Force on Special Education.
- O'Keeffe, S. B. (2009). Running Head: Lifting the Restrictions from the Least Restrictive Environment. Northern Arizona University.
- Rennie Center for Education Research & Policy. Spring 2009. "Seeking Effective Policies and Practices for Students with Special Needs."
- Swanson, C. B. (2008). Special Education in America. The state of students with disabilities in the nation's high schools. EPE Research Center.

The Importance of Core Instruction

- Boser, U., Wilhelm, M., & Hanna, R. (2014, October 6). The Power of the Pygmalion Effect: Teacher Expectations Strongly Predict College Completion. Center for American Progress.
- Hehir, Thomas; Grindal, Todd; Eidelman, Hadas. (April 2012). "Review of Special Education in the Commonwealth of Massachusetts." Report commissioned by the Massachusetts Department of Elementary and Secondary Education.
- Najarro, Ileana. (2022, January 13). Teachers Deliver Less to Students of Color, Study Finds. Is Bias the Reason? Education Week.
- Napolitano, Jo. (2023, May 16). Dallas ISD's Opt-Out Policy Dramatically Boosts Diversity in its Honors Classes. American Education News Source.
- Reeves, Douglas B. Making standards work: How to implement standards-based assessments in the classroom, school, and district. Lead+ Learn Press, 2002.
- Rosenthal, R, and L. Jacobsen. Pygmalion in the classroom: teacher expectation and pupils' intellectual development. New York: Holt, Rinehart and Winston, 1968.

The Need for Extra Time Interventions

- Abott, M., Wills, H. (2011, December 15). Improving the Upside-Down Response-to-Intervention
 Triangle with a Systematic, Effective Elementary School Reading Team. Preventing School
 Failure: Alternative Education for Children and Youth.
- Allington, R.L. (April/May 2006). Research and the Three Tier Model.
- Cortes, K., Goodman, J., Nomi, T. (April 2013). Intensive Math Instruction and Educational Attainment: Long-Run Impacts of Double Dose Algebra. Faculty Research Working Paper Series. RWP13-09. Harvard Kennedy School.
- DuFour, Richard, DuFour, Rebecca, Robert Eaker, and Gayle Karhanek. Whatever it takes: How professional learning communities respond when kids don't learn. Bloomington, IN: National Educational Service, 2004.
- FCRR A Principal's Guide to Intensive Reading Interventions for Struggling Readers in Reading First School. Florida Center for Reading Research.
- Grossman, P. (2021, March 11). Want to Improve Learning Outcomes? Give Students More time. Additional time engaged in high-quality academic learning can help. EdWeek.
- Harn, B. (Keynote) Coordinating Instructional Supports: Maximizing Learning and Instructional Resources. College of Education, University of Oregon. Center on Teaching and Learning.
- Harlacher, J., Sanford, A., & Walker, N. (2015). "Distinguishing Between Tier 2 and Tier 3
 Instruction in Order to Support Implementation of RTI." RTI Action Network.
- Gersten, R., Compton, D., Connor, C.M., Dimino, J., Santoro, L., Linan-Thompson, S., and Tilly, W.D. (2008). Assisting students struggling with reading: Response to Intervention and multi-tier intervention for reading in the primary grades. A practice guide. (NCEE 2009-4045). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences. What Works Clearinghouse.
- Gertsen, R., Beckmann, S., Clarke, B., Foegen, A., Marsh, L., Star, J.R., Witzel, B. (April 2009).
 Assisting Students Struggling with Mathematics: Response to Intervention (RtI) for Elementary and Middle Schools. IES Practice Guide. National Center for Education Evaluation and Regional Assistance. Institute of Education Sciences.
- Guryan et al. (March 2021) Not Too Late: Improving Academic Outcomes Among Adolescents. National Bureau of Economic Research Working Paper Series.
- Jones, N., Vaughn, S., Fuchs, L. (June 2020) Academic Supports for Students with Disabilities. Brief 2. EdResearch for Recovery.
- King, S.A., Lemons, C.J., Hill, D.R. (2012, January 5). Response to Intervention in Secondary Schools: Considerations for Administrators. Sage Publications. NASSP Bulletin 2012 96: 5.
- Group Size Research 2016 3 14. (Research Summary. (2015, June) Reading Intervention Group Sizes. District Management Council.)
- Pashler, H., Bain, P.M., Bottge, B.A., Graesser, A., Koedinger, K., McDaniel, M., Metcalfe, J. (September 2007). Organization Instruction and Study to Improve Student Learning. IES Practice Guide. National Center for Education Research. Institute of Education Sciences.
- Response to Intervention Exec Summary, RTI in Action.
- Rich, M. (2014, Jan 26). Intensive Small-Group Tutoring and Counseling Helps Struggling Students. NYT.
- Scammacca, N., Vaughn, S., Roberts, G., Wanzek, J., Torgesen J.K. (2007). Extensive Reading Interventions in Grades K-3. From Research to Practice. Centre on Instruction.
- Schmoker on Differentiated Instruction. Schmoker, M. (September 2010). When Pedagogic Fads Trump Priorities. Education Week.

- Shanahan, T. Implications of RTI for the Reading Teacher. Chapter 5.
- Stiggins, Rick, and Rick DuFour. "Maximizing the power of formative assessments." Phi Delta Kappan 90.9 (2009): 640-644.
- Vaughn, S., Wanzek, J., Murray, C. S., Roberts, G. (2012). Intensive interventions for students struggling in reading and mathematics: A practice guide. Portsmouth, NH: RMC Research Corporation, Center on Instruction.
- Vaughn, S., Denton, C.A., Fletcher, J.M. (May 2010). NIH Why Intensive Interventions Are Necessary for Students with Severe Reading Difficulties. NIH Public Access 47(5): 432–444.
- Young, Caresa Lynn. The effects of group size on reading outcomes of identified nonresponders. Diss. Vanderbilt University, 2008.

The Importance of Content Strong Teachers

- American Psychological Association. (2015). Top 20 Principles from Psychology to PreK-12 Teaching and Learning. Coalition for Psychology in Schools and Education.
- Darling-Hammond, L., Chung Wei, R., Andree, A., Richardson, N., Orphanos, S. (2009)
 Professional Learning in the Learning Profession. A Status Report on Teacher Development in the United States and Abroad. School Redesign Network at Stanford University. National Staff Development Council.
- District Management Council. (2015). Finding time to improve teacher effectiveness.
- Hehir, T. (2002) Eliminating Ableism Education. Harvard Graduate School of Education. Harvard Educational Review Vol. 72 No. 1 Spring 2002.
- Ingraham, K.D. (September 2021). Rethinking Teacher Certification to Employ K-12 Adjunct Teachers. Sketching a New Conversative Education Agenda. American Enterprise Institute.
- Jones, N., Vaughn, S., Fuchs, L. (June 2020) Academic Supports for Students with Disabilities. Brief 2. EdResearch for Recovery.
- Kane, T. (2013). Final Reports from the Measures of Effective Teaching Project. MET Project. Ensuring Fair and Reliable Measures of Effective Teaching. Harvard University.
- Mathews, J. (2009, August 17). Age-Old Problem, Perpetually Absent Solution: Fitting Special Education Students' Needs. Washington Post.
- Weisberg, D., Sexton, S., Mulhern, J., Keeling, D. (2009). The Widget Effect: Our National Failure to Acknowledge and Act on Differences in Teacher Effectiveness. The New Teacher Project.

The Appropriate Role of Paraprofessionals

- "A Study of the Use of Paraprofessionals to Deliver Special Education Services in Vermont Schools", the University of Massachusetts Donahue Institute (UMDI), March 2015.
- Barrett, S. (February 18, 2015). Vermont Paraprofessionals Study. Interim Report Brief. Applied Research and Program Evaluation. Page 1 of 3. Draft Brief UMDI Paraprofessional Study. UMass Donahue Institute.
- Broer, Stephen M., Doyle, Mary Beth, Halvorsen, Ann T., Giangreco, Michael F. "Alternatives to overreliance on paraprofessionals in inclusive schools." *Journal of Special Education Leadership* 17.2 (2004): 82.
- Causton-Theoharis, Julie N. "The golden rule of providing support in inclusive classrooms: Support others as you would wish to be supported." *Teaching Exceptional Children* 42.2 (2009): 36-43.
- Giangreco, Michael F., et al. "Be careful what you wish for...": Five reasons to be concerned about the assignment of individual paraprofessionals." *Teaching Exceptional Children* 37.5 (2005): 28-34.

- Giangreco, Michael F., Sean M. Hurley, and Jesse C. Suter. "Special education personnel utilization and general class placement of students with disabilities: Ranges and ratios." *Journal Information* 47.1 (2009).
- Giangreco, Michael F., Carter S. Smith, and Elaine Pinckney. "Addressing the paraprofessional dilemma in an inclusive school: A program description." Research and Practice for Persons with Severe Disabilities 31.3 (2006): 215-229.
- Iowa Department of Education. (2013). Appropriate Paraeducator Services.
- Iowa Department of Education. (2007). Guide to Effective Paraeducator Practices. Edition II. Student and Family Support Services.
- McLeskey, J., Waldron, N.L., Spooner, F., Algozzine, B. (2014). Handbook of Effective Inclusive Schools: Research and Practice.
- Mittnacht, Marcia. "Technical Assistance Advisory SPED 2014-3: Identifying the Need for Paraprofessional Support." Massachusetts Department of Elementary and Secondary Education. February, 26, 2015.
- Radford, J., Bosanquet, P., Webster, R., Blatchford, P. Scaffolding learning for independence: Clarifying teaching and teacher assistant roles for children with special education needs. Learning and Instruction 36 (2015) 1-10.
- Stockall, N.S. (2014). When an Aid Really Becomes an Aid Providing Professional Development for Special Education Paraprofessionals. Teaching Exceptional Children, 46(6), 197-205.
- Suter, Jesse C., and Michael F. Giangreco. "Numbers that count: Exploring special education and paraprofessional service delivery in inclusion-oriented schools." *The Journal of Special Education* (2009).
- Shellenbarger, S. (2006, October 12). Young Workers with Dyslexia, ADD Find Office Less Accommodating Than School. *Wall Street Journal*.

General Importance of Quality of Teachers

- Allington, Richard L. "What at-risk readers need." Educational Leadership. 68.6 (2011): 40-45.
- Block, Cathy Collins, Margaret Oakar, and Nicholas Hurt. "The expertise of literacy teachers: A continuum from preschool to grade 5." Reading Research Quarterly 37.2 (2002): 178-206.
- Darling-Hammond, Linda. "Teacher quality and student achievement: A Review of State Policy Evidence." *Education policy analysis archives* 8 (2000): 1.
- Gersten, R., Compton, D., Connor, C.M., Dimino, J., Santoro, L., Linan-Thompson, S., and Tilly, W.D. (2008). Assisting students struggling with reading: Response to Intervention and multi-tier intervention for reading in the primary grades. A practice guide. (NCEE 2009-4045). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences. What Works Clearinghouse.
- Goe, Laura, and Leslie M. Stickler. "Teacher Quality and Student Achievement: Making the Most of Recent Research. TQ Research & Policy Brief." National Comprehensive Center for Teacher Quality (2008).
- Harris, Douglas N., and Tim R. Sass. (March 2007) "Teacher training, teacher quality and student achievement." Working Paper 3. Tracking Every Student's Learning Every Year. National Center for Analysis of Longitudinal Data in Education Research.
- Hwang, NaYoung, and Brian Kisida. "Spread Too Thin: The Effects of Teacher Specialization on Student Achievement. EdWorkingPaper No. 21-477." *Annenberg Institute for School Reform at Brown University* (2021).
- Kincaid, Ashley. The evidence is mounting: Teacher specialization in elementary grades hurts student learning." National Council on Teacher Quality. (2022)

- Mioduser, David, Hanna Tur-Kaspa, and Irit Leitner. "The learning value of computer-based instruction of early reading skills." Journal of computer assisted learning 16.1 (2000): 54-63.
- National Council on Teacher Quality, "Teacher Prep Review" 2014.
- Putman, Hannah. "The importance of content knowledge for elementary teachers." National Council on Teacher Quality. (2021)
- Rice, Jennifer King. *Teacher Quality: Understanding the Effectiveness of Teacher Attributes*. Economic Policy Institute, Washington, DC, 2003.
- Stewart, J., Rhoads, C., Serdiouk, M., Van Dine, D., Cherasaro, T., Klute, M. (2019, October). "Associations between the qualifications of middle school Algebra 1 teachers and student math achievements." U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance.
- Suh, Thomas-Fore. "The National Council on Teacher Quality: Expanding the Teacher Quality Discussion." ERIC Digest. (2002).
- Taylor, Barbara M., and P. David Pearson, eds. Teaching reading: Effective schools, accomplished teachers. Routledge, 2005.
- Taylor, Barbara M., Michael Pressley, and David Pearson. "Effective Teachers and Schools: Trends across Recent Studies." (2000).
- Teachers Matter: Understanding Teachers' Impact on Student Achievement." RAND Corporation.
- Walsh, Kate, Deborah Glaser, and Danielle Dunne Wilcox. "What education schools aren't teaching about reading and what Elementary teachers aren't learning." *National Council on Teacher Quality* (2006).
- Public Impact's OpportunityCulture.org website

The Importance of Reading and Related Best Practices

- Annie E. Casey Foundation. (2010). "Early Warning! Why Reading by the End of Third Grade Matters." A KIDS COUNT Special Report from the Annie E. Casey Foundation.
- Allington, Richard L., Gabriel, R.E. (March 2012). The six elements of effective reading instruction don't require much time or money—just educators' decisions to put them in place. Every Child, Every Day. Educational Leadership.
- Allington, Richard L. "What I've Learned about Effective Reading Instruction from a Decade of Studying Exemplary Elementary Classroom Teachers." The Phi Delta Kappan. Vol. 83, No. 10 (June 2002), pp. 740-747
- Allington, Richard L. "What really matters when working with struggling readers." The Reading Teacher 66.7 (2013): 520-530.
- Armbruster, Bonnie B., Lehr, Fran, Osborn, Jean. "Put Reading First: The Research Building Blocks for Teaching Children to Read: Kindergarten Through Grade 3." National Institute for Literacy: The Partnership for Reading, 2001.
- Armbruster, Bonnie B., Lehr, Fran, Osborn, Jean. "Put Reading First: The Research Building Blocks for Teaching Children to Read: Kindergarten Through Grade 3." National Institute for Literacy: The Partnership for Reading, 2006.
- Correcting Myths About Dyslexia.
- Denton, C. A.; Fletcher, J. M.; Anthony, J. L. and Francis, D. J. "An Evaluation of Intensive Intervention for Students with Persistent Reading Difficulties." *Journal of Learning Disabilities*, 39, 447-466, 2006.
- District Management Journal. (2009). "Systems-Thinking Can Ensure All Students Read." DMC Spotlight. The District Management Journal.

- Foorman, B., et al. (July 2016). Foundational Skills to Support Reading for Understanding in Kindergarten Through 3rd Grade. Educator's Practice Guide. Institute of Education Sciences. National Center of Education Evaluation and Regional Assistance. What Works Clearinghouse.
- Gersten, R., Compton, D., Connor, C.M., Dimino, J., Santoro, L., Linan-Thompson, S., and Tilly, W.D. (2008). Assisting students struggling with reading: Response to Intervention and multi-tier intervention for reading in the primary grades. A practice guide. (NCEE 2009-4045). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences. What Works Clearinghouse.
- Hanover Research. (November 2014). Best Practices in K-12 Literacy Models.
- Hanover Research. (January 2015). "Improving K-5 Literacy Outcomes."
- Hernandez, Donald J. "Double Jeopardy: How Third-Grade Reading Skills and Poverty Influence High School Graduation." *Annie E. Casey Foundation* (2011).
- How Effective is Orton-Gillingham Researcher's Conclusion.
- Kamil, M.L, Borman, G.D., Dole, J., Kral, C.C., Salinger, T., Torgesen, J. (August 2018). Improving
 Adolescent Literacy: Effective Classroom and Intervention Practices. IES Practice Guide. Institute
 of Education Sciences. National Center for Education Evaluation and Regional Assistance. What
 Works Clearinghouse.
- Mesmer, E.M., Mesmer, H.A.E. (2008). Response to Intervention (RTI): What Teachers of Reading Need to Know. The Reading Teacher, 62(4), pp. 280–290.
- National Reading Panel. (2000). "Teaching Children to Read: An Evidence Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction." Report of the National Reading Panel.
- Schenectady City School District. Grades 4-6 Literacy Plan Recommendations. (August 2015). District Management Council.
- Secondary Reading Ideas. Teaching a History Unit in a Way That Supports Struggling Readers.
- Shanahan, Timothy, et al. "Improving Reading Comprehension in Kindergarten through 3rd Grade: IES Practice Guide. NCEE 2010-4038." What Works Clearinghouse (2010).
- Summary Importance of Third Grade Reading. (Sparks, S.D. (2011, April 8). Third Grade Reading Predicts Later High School Graduation. Education Week: Inside School Research.)
- Sweet, Anne P., McGuire, C. Kent, Riley, Richard W. *Ten Proven Principles of Teaching Reading*. National Education Association, 2000.
- Taylor, Barbara M., and P. David Pearson, eds. Teaching reading: Effective schools, accomplished teachers. Center for the Improvement of Early Reading Achievement: 1999.
- Vaughn, S., Kieffer, M.J., McKeown, M., Reed, D.K., Sanchez, M., St.Martin, K., Wexler, J.(March 2022). Providing Reading Interventions for Students in Grades 4-9. Educator's Practice Guide. Institute of Education Sciences. What Works Clearinghouse.
- Young, C.L. (May 2008). The Effects of Group Size on Reading Outcomes of Identified Nonresponders. Dissertation Submitted to the Faculty of the Graduate School of Vanderbilt University.

The Effectiveness of Instructional Coaching

- District Management Council. Best Practices for Instructional Coaching.
- District Management Council. Best Practices for Supporting Coaches 2015-10-8.
- Joyce, B., and Showers, B. "Student achievement through staff development" (3rd ed.). Association for Supervision and Curriculum Development, 2002.
- Killion, Joellen, and Cindy Harrison. Taking the Lead: New Roles for Teachers and
- School-based Coaches. Oxford, OH: National Staff Development Council, 2006.