
Findings from Projects with a Focus on Serving Students with Disabilities

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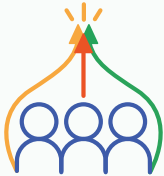

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Introduction



The Investing in Innovation (i3) and Education Innovation and Research (EIR) grant programs have made large investments in researching innovative educational practices. The overall purpose of these programs is to expand the implementation of, and investment in, innovative practices that are demonstrated to have an impact on improving outcomes for high-need students. In serving high-need students, some grantees focus on students with disabilities. As special educators refine methods for teaching students with disabilities, the need for innovations specific to students with disabilities remains.

The Council for Exceptional Children, in collaboration with the Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR) Center, has published a set of high-leverage practices (HLPs) that are specific to assisting special educators as they work to facilitate growth for students with disabilities (McLeskey et al., 2017). These practices are centered around four areas of practice: Collaboration, Assessment, Social / Emotional / Behavioral Practices, and Instruction. Each of these practice areas focuses on critical skills and components that have been shown to advance student achievement in school. These practices are often found in innovations aimed at improving academic growth of students with disabilities.

22 High-Leverage Practices (HLPs) in Special Education

Area	HLP in Special Education
<p data-bbox="212 1035 380 1062">Collaboration</p> 	<p data-bbox="477 1035 1154 1062">Collaborate with professionals to increase student success.</p> <hr/> <p data-bbox="477 1119 1325 1146">Organize and facilitate effective meetings with professionals and families.</p> <hr/> <p data-bbox="477 1203 1321 1260">Collaborate with families to support student learning and secure needed services.</p>
<p data-bbox="212 1304 358 1331">Assessment</p> 	<p data-bbox="477 1304 1406 1360">Use multiple sources of information to develop a comprehensive understanding of a student's strengths and needs.</p> <hr/> <p data-bbox="477 1409 1325 1465">Interpret and communicate assessment information with stakeholders to collaboratively design and implement educational programs.</p> <hr/> <p data-bbox="477 1514 1300 1570">Use student assessment data, analyze instructional practices, and make necessary adjustments that improve student outcomes.</p>

22 High-Leverage Practices (HLPs) in Special Education, continued

Area	HLP in Special Education
<p data-bbox="212 338 428 428">Social / Emotional / Behavioral Practices</p> 	Establish a consistent, organized, and respectful learning environment.
	Provide positive and constructive feedback to guide students' learning behavior.
	Teach social behaviors.
	Conduct functional behavioral assessments to develop individual student behavior support plans.
<p data-bbox="212 646 347 674">Instruction</p> 	Identify and prioritize long- and short-term learning goals.
	Systematically design instruction toward a specific learning goal.
	Adapt curriculum tasks and materials for specific learning goals.
	Teach cognitive and metacognitive strategies to support learning and independence.
	Provide scaffolded supports.
	Use explicit instruction.
	Use flexible grouping.
	Use strategies to promote active student engagement.
	Use assistive and instructional technologies.
	Provide intensive instruction.
	Teach students to maintain and generalize new learning across time and settings.
Provide positive and constructive feedback to guide students' learning and behavior.	

Source: McLeskey et al., 2017

The information shared in this summary is presented through the lens of HLPs. It presents four case studies of completed i3 projects based on each project's final evaluation report. Each of the projects was funded under a competitive preference on serving students with disabilities. The final evaluation reports from the completed i3 projects did not use the language of HLPs, but the authors of this summary classified the components of each project using HLPs as a framework.

Case Studies

These four case studies provide a description of each completed i3 project along with a breakdown of specific strategies or core components of the intervention, an identification of which HLPs were used, and a summary of the results of the research study for each intervention. Each case study also notes, where possible, whether the components were implemented with fidelity. Fidelity is defined and measured by each project team and their evaluator. The purpose of these case studies is to provide a resource for special educators, to aid researchers in examining the impact of interventions with other populations or in different settings, and to help potential grant applicants who may wish to build on these ideas with further innovation.

Redesigning Secondary Courses to Improve Academic Outcomes for Adolescents with Disabilities and Other Underperforming Adolescents

Secondary students with disabilities confront unique challenges in school classrooms. These challenges may result in behavioral issues, higher rates of attrition, and lower achievement scores. In 2014, SRI International and the Center for Applied Special Technology received an i3 grant, "Redesigning Secondary Courses to Improve Academic Outcomes for Adolescents with Disabilities and Other Underperforming Adolescents," to create and study a program called Enhanced Units (EU).

The goal of EU was to improve higher-order content skills in high school U.S. history and biology classes for students with disabilities or other learning challenges. The EU program provided teachers with curricular materials for implementing routines in biology and history, professional development for using the materials in their classes, and ongoing coaching throughout the school year.



The EU program used four routines with technological enhancements, based on the Strategic Instruction Model (SIM). These four routines were:

- 1. Unit organizer:** Used by teachers to plan and introduce main concepts in each lesson.
- 2. Question exploration:** Assisted students in understanding the focus question in each lesson. Students taught with this routine learn essential skills to increase their understanding of big questions by breaking the lesson down into smaller questions and exploring those answers.
- 3. Cause and effect:** Guided students to think about the lesson at a high level. Students utilize critical thinking skills to build the cause and effect of each lesson in order to improve their understanding of the material.
- 4. Comparison tables:** Used by students and teachers to compare and contrast key concepts of the lesson.

SIM interventions are based on the application of the principles of systematic, explicit, guided instruction, mastery of critical content, and the use of cognitive and metacognitive supports related to completing academic and social tasks that improve student learning. SIM lessons provide ways to graphically highlight critical content, steps to follow in acquiring content individually and with others, and ways to monitor progress and retention (Deshler & Schumaker, 2006).



The routines were used in biology units on cells, ecology, evolution, and genetics, and in history units on the 1920s, the Great Depression, World War II, and the Cold War. Additionally, the Co-Organize Your Learning (CORGI) application was available as a home base for information related to the routines, including videos, expert examples, text-to-speech and speech-to-text technology, and vocabulary and translation support (Jaciw et al., 2019).

To test the effect of the EU program, the external evaluator, Empirical Education Inc., randomized 18 general education biology classrooms and 12 U.S. history classrooms to either implement the EU program with CORGI or to continue with existing instructional approaches (i.e., business-as-usual). The business-as-usual condition served as a control. The classrooms participating in the study included students

in grades 9-12 for the biology classes and students in grade 11 for the U.S. history classes. Overall, approximately 12 percent of the students had Individualized Education Plans (IEPs). The EU program was implemented during the spring semester in classrooms from a variety of urban and suburban locales. The outcome of the randomized controlled trial showed that the EU program had a positive effect on student test scores in U.S. history but no effect on student biology test scores or combined biology and U.S. history scores.

An analysis of fidelity of implementation found that the program was not implemented with fidelity. Teachers were supposed to attend three days of professional development and receive eight hours of ongoing coaching. Overall, only 69 percent of teachers completed the professional development element of the program and received ongoing coaching. Due to a variety of constraints, teachers reported they did not adhere to using the EU program routines and CORGI as intended. Therefore, it is possible that if the EU program had been implemented with fidelity, the results of the program in both biology and U.S. history may have reached statistical significance.

Data from teacher surveys and daily implementation logs indicated that teachers became more comfortable implementing routines as the program progressed. Despite not reaching the threshold for fidelity throughout the duration of the program, teachers went from reporting they “never” or “seldom” used the routines to reporting they “sometimes” or “often” used the routines. Two routines, “Cause and Effect” and “Compare and Contrast,” were most frequently cited by teachers as useful. Teachers reported that the “Cause and Effect” routine was useful due to its straightforward delivery and linear focus. The “Compare and Contrast” routine was reported as useful due to its pairing with graphic aids, ease of implementation, focus on building vocabulary, and the students’ enjoyment in using the routine. One routine, “Question Exploration,” was reported as the least useful component. Teachers felt that this routine did not help increase students’ higher-order thinking.

Another potential explanation for the difference in findings between U.S. history and biology may be that the study of history involves a chronological progression that is not found in the biology curriculum. The four U.S. history units utilizing the routines were built sequentially as a progression through time, whereas the biology units were stand-alone lessons that may not have benefited

HLPs in Enhanced Units:



Establish a consistent, organized, and respectful learning environment through routines.



Use assistive and instructional technologies.

fully from the routines. Future research might examine differences in implementation based on the content and flow of the subject matter or might lengthen the implementation period to allow for a longer adjustment for teachers. This success of EU in U.S. history has the potential to be replicated in similarly structured subjects and in other grade levels.

Get the Picture?! Guiding and Engaging Exceptional Teens

Research has shown that rural schools often need additional supports to address school resources and funding, education quality, and teacher perseverance (Harris & Hodges, 2018; Yettick, 2014). School resources and education quality are related to student success rates (Wells et al., 2019). In addition to these factors, student level of self-determination is also related to success. Because increased self-determination leads students to take action to reach their goals, student success rates may be improved by increasing students' self-determination (Ju et al., 2017). Increasing behaviors of self-determination may be especially beneficial for students with disabilities. For instance, students with disabilities might feel empowered to advocate for disability services; this would constitute an example of students with disabilities taking action to reach their goals.




"Get the Picture?! Guiding and Engaging Exceptional Teens" was a four-year i3 project implemented by the Green River Regional Educational Cooperative in rural high schools in high-poverty school districts. "Get the Picture?!" was designed to assist students with disabilities in developing self-determination skills so that they could obtain industry credentials or meet readiness benchmarks on college or career assessments. It was also designed to increase goal-driven behavior and to decrease the need for negative consequences like school suspensions.



The program involved four main components. The first component was teacher professional development around positive student behaviors and instructional practices. The second component entailed coaching teachers on how to review student data and develop student plans. Coaches met with school support teams at least four times per year. These support teams consisted of the College/Career Readiness Coaches, the lead career strategist, a second career strategist, the special education teachers, and school counselors. The third component invited teachers to help each student develop an individualized learning Career Pathway Plan aligned with that student's aspirations and needs. This plan required students to write detailed activities and specific objectives for meeting their goals. A school-based career strategist was on staff at each school to meet with each student once per week to discuss the student's individual learning plan. By meeting with the career strategist, students were able to work through their goals for life after high school and create action steps while also addressing any potential barriers to future success. The final component of the program consisted of school-based family engagement activities and career exploration or college visit field trips (Zoblotsky & Gallagher, 2020).

“Get the Picture?!” was implemented in nine high schools that were among the lowest performing in College and Career Readiness in Kentucky. The project was implemented for three school years, from 2015-16 through 2018-19. Each of the nine schools that implemented “Get the Picture?!” was matched with two similar high schools. The study included students who were in ninth grade during the 2015-16 school year, were receiving special education services, and were working towards a regular high school diploma. The impact of “Get the Picture?!” was measured with reference to two outcomes: transition readiness and number of suspensions (Zoblotsky & Gallagher, 2020).

HLPs in “Get the Picture?!”:

-  Identify and prioritize long- and short-term learning goals.
-  Use student assessment data, analyze instructional practices, and make necessary adjustments that improve student outcomes.
-  Collaborate with professionals to ensure student success.

As part of the “Get the Picture?!” program, students focused on establishing professional interests and developing career pathways as mechanisms to help them become “transition ready.” After three years, students in schools implementing “Get the Picture?!” were significantly more likely to be transition ready than students in business-as-usual schools. Being transition ready meant that the student demonstrated academic readiness through coursework or exams or demonstrated career readiness through a certification, a Career and Technical Education end-of-program assessment, dual credit, or an apprenticeship. Additionally, student interest in developing career pathways increased throughout the program. There was no difference in the cumulative number of suspensions between students in schools implementing “Get the Picture?!” and students in similar schools.

The components of “Get the Picture?!” were implemented with fidelity. Teachers reported that participating in professional development helped them understand how to support high poverty students and students with disabilities in their classrooms. Furthermore, community and family engagement activities were carried out in school districts beyond the minimum level of involvement required by the intervention. Each school district involved in the program increased their number of family engagement activities from an average of one or two events to an average of seven events per year. Schools also increased the number of college and career exploration trips taken per year.

Using Intensive Intervention to Improve Mathematics Skills of Students with Disabilities

Mathematics can be difficult for many people and is therefore a key area of interest for interventions targeting achievement. This subject area can be especially challenging for some students with disabilities. When teaching mathematics, educators use various methods to help students reach common achievement standards. The 2014 “Using Intensive Intervention to Improve Mathematics Skills of Students with Disabilities” i3 grant project focused on data-based individualization (DBI) for students who had not responded to prior mathematics interventions or remediation efforts, students who had a disability, or both.

DBI is an iterative and systematic approach to intensive intervention that uses student data to determine when and how to adapt, intensify, and individualize interventions, and it can be a component of a Multi-Tiered System of Supports (MTSS). The DBI model is comprised of five steps (Petscher et al., 2020):

1. A validated intervention program/platform is used in alignment with the student's area of need.
2. Progress is monitored by the teacher using a valid, reliable assessment tool.
3. If progress is deemed to be inadequate, then additional diagnostic data are collected to determine needs and identify a plan for adapting the intervention.
4. If there are any intervention adaptations that need to take place, then the teacher implements the changes.
5. Progress continues to be monitored to determine student response to the intervention.



For this i3 project, teachers implementing the DBI program used progress-monitoring data to evaluate and plan instructional goals. When the progress-monitoring data alerted the teacher to a decrease in student progress, teachers were able to collect additional diagnostic data. The teacher can use these data to identify a student-specific plan to address needs on an individual basis. This method of intervention allows all students in a classroom to learn the same curriculum while receiving individualized attention to learning needs.

Research has shown that DBI interventions are difficult to implement in the school setting for various reasons, including lack of trained teachers and monitoring tools as well as competing priorities. To improve the implementation of the DBI intervention and combat these common issues, teacher teams received monthly coaching sessions on how to refine their process, review data, integrate new learning, and begin student-level intervention planning.

The DBI project took place in eight elementary schools and two middle schools. It examined the effect of one year of DBI on mathematics achievement among first- and second-grade students with severe and persistent mathematics learning needs. The research study used a randomized controlled trial design where some schools implemented the program one year, while others served as a comparison. The comparison schools were offered the program after a one-year delay. After one year, there was no difference in mathematics computational achievement between students whose teachers were using DBI and the students from the comparison group.

HLPs in Data-Based Individualization:



Use student assessment data to analyze instructional practices and make necessary adjustments that improve student outcomes.



Use multiple sources of information to develop a comprehensive understanding of a student's strengths and needs.

The initial study looked at the impact after one school year, but it also tracked the program students through fourth and fifth grades. By the third year, exploratory findings among a subgroup of non-White students revealed that non-White students whose teachers had been

using DBI for two years outperformed non-White students whose teachers had only been using DBI for one year. This subgroup finding was only found for non-White students, not for White students.

Additional implementation and formative evaluation findings included feedback from parents and families of students in the program classrooms regarding their experiences over the course of the study. Some parents believed communication between the school and family was of particular benefit. This increase in communication was seen through written updates from teachers; shared information regarding academic progress and individual student needs; and family meetings with the intervention team, involving parents in their child's academic growth. Understanding that parents have a unique insight into behavioral changes in their child, program staff also consulted parents about their perception of impact. Parents reported positive behavioral changes, such as increased levels of independent learning, growth in mathematics understanding resulting in newfound confidence, and an overall increase in happiness with school. However, there were other interviewed parents who believed communication was a challenge. This finding indicates a difference in implementation across teachers and schools.

Overall, the program was not implemented with a high degree of fidelity, though implementation increased over time. The evidence of growth in both DBI procedures and the MTSS process is a promising program achievement. One potential barrier to implementation is a lack of alignment between the DBI program and teacher instruction in the classroom. Teachers participating in the program expressed concern to implementation staff, stating that the mathematics instruction and vocabulary used in each class were not aligned with the practices for the program. This resulted in lower levels of fidelity as teachers struggled to align the teachings.

Future implementation and research might consider testing interventions using DBI in a subject outside of mathematics to determine whether the instruction and coaching procedures align with positive student achievement outcomes in other subject areas.¹ Additionally, considering the findings across implementation years, future studies might examine whether extending the length or dosage of the program has a larger impact on student outcomes or if teachers need more years of experience with DBI before results are seen.

HEROES: Helping Early Readers Obtain Excellence in Special Education

Literacy is an essential skill, and approximately 5-17 percent of school-age children are diagnosed with reading difficulties, such as Specific Word Reading Disability or Specific Reading Comprehension Disability (Grigorenko et al., 2019). Reading disabilities are estimated to account for many learning disabilities seen in the school system (D'Agnostino et al., 2021; Shaywitz & Shaywitz, 2003). In 2015, the Ohio State University received a four-year i3 grant to develop and test whether an instructional model designed to improve literacy outcomes for beginning readers would work for students with IEPs focused on reading. Participants in the "Helping Early Readers Obtain Excellence in Special Education" (HEROES) program consisted of students who had already tried alternative reading programs and were performing significantly below their peers in reading.

¹The National Center on Intensive Intervention has resources for implementing DBI in literacy, for behavior strategies, and with English learners.

The HEROES program built on several theoretical frameworks for teaching children to read. These frameworks provide guidance for developing an instructional delivery model. First, the intervention included the use of action-based problem-solving strategies, such as prompting the student to solve a previously unnoticed error. Second, HEROES teachers used the evidence-based practice of scaffolding to improve literacy in young children (Lutz et al., 2006) and to build a foundation for future learning strategies. Third, teachers provided individualized instruction to each student to address specific learning needs.

The HEROES program had two main components. First, special education teachers participated in six hours of graduate-level courses, received books and instructional materials, and completed specialized training in one-to-one literacy tutoring. As part of the special education teacher training, coaches worked with special education teachers and modeled how to deliver lessons to children. Second, special education teachers taught lessons to students on identifying letters, understanding letter sounds and speech, recognizing words, gaining fluency in reading, and decoding text. Each lesson was standardized to include familiar/fluent reading practices, an oral reading assessment (Running Record), and the reading of a new book with teacher scaffolding (D'Agostino et al., 2021). This lesson format allowed the student to begin with a review of skills, offered teachers an assessment to better understand each student's needs and overall progression in problem-solving skills, and incorporated a final push toward the development of new skills.



The HEROES intervention program was implemented in Georgia, Ohio, South Carolina, and Tennessee from 2015-2018. Throughout these three years of implementation, the HEROES program expanded to new schools and districts with a new cohort of teachers each year. The program compared 329 students who received the HEROES instruction in one of the three total years to 161 students in business-as-usual classrooms.

All students who participated in the program were between 6-10 years of age, measured below a second-grade reading level, had an IEP with a specified reading goal, and received reading instruction from a special educator (D'Agostino et al., 2021).

After one year of receiving the HEROES intervention, students were two to three months ahead of their peers in early literacy skills development compared to similar students who did not receive HEROES intervention (D'Agostino et al., 2021). One possible explanation for the success of the program is the focus on delivering one-on-one support to students rather than delivering support in whole group settings. Personalized instruction, implemented with fidelity, allowed teachers the opportunity to pinpoint individual student needs and address those needs directly in the lessons.

To measure fidelity of implementation, program staff requested that teachers complete weekly logs recording data on time spent implementing program procedures. According to these logs, the HEROES program was fully implemented. Records indicated that 108 of 114 teachers consistently used the assessments to monitor student progress in their literacy development. Every teacher indicated that they followed program protocol by implementing each component of the lesson plan in every individual student lesson.

HLPs in HEROES:



Provide scaffolded supports.



Use student assessment data to analyze instructional practices, and make necessary adjustments that improve student outcomes.

Common Themes

Full Implementation Resulting in Positive, Statistically Significant Findings

In the two case studies where fidelity was achieved, at least one of the outcomes had positive and statistically significant results. First, “Get the Picture?!” used student assessment data to adjust instructional practices and long-/short-term goals to impact student outcomes. This was accomplished through meetings with a school support team designed to create individualized student goals and modify instructional practices to achieve these goals. Second, HEROES used student assessment data to individualize and modify instructional practices while also providing scaffolded lessons to students learning to read. The HEROES program developed unique lesson plans that built in assessment data and provided specified areas for instructional modification while working with each student individually. The lessons built upon skills learned in previous lessons, ensuring steady progress and resulting in significant, positive findings for student literacy outcomes. Although DBI entailed using student assessment data, analyzing instructional practices, and making adjustments, these methods were not fully implemented and that might partially explain the lack of significant findings.

Implementing a program with fidelity does not necessarily ensure that all the intended outcomes will be achieved. Similarly, incomplete implementation of a practice or program does not mean that there will never be significant results. Programs should monitor and track implementation fidelity to address why something is not happening as intended and make changes accordingly (e.g., increasing supports, adjusting schedules, removing unnecessary tasks). It is also important to remain flexible in the understanding of what it means to implement a practice with fidelity, and to be able to adapt program models to the local context and specific student population needs.

While none of these studies set out to implement, measure, or test HLPs specifically, the four interventions presented in this cross-project summary demonstrate how some HLPs can be implemented in a variety of different programs. Each of the four programs represents varying subjects, student populations, and levels of implementation. Creating a program that can be implemented as intended is an important factor when developing an intervention using evidence-based practices and HLPs. Future research should explore which strategies, or combinations of strategies and practices, may be most effective. Additionally, understanding how the combined implementation of different practices can affect student outcomes may be as important as understanding the unique impacts of each practice.

Professional Development and Building Capacity of Teachers

Teachers often need training or support when they are asked to implement a new practice or program. Group trainings or workshops, coaching, online modules, and advanced coursework all provide structured opportunities for teachers to learn new methods of support or instruction, as well as new content. Supplemental coaching or professional learning communities are other professional development opportunities that serve to build teacher capacity. The content of professional development can cover practices related to various HLPs as well as other topics. The four case studies presented here each used a combination of these professional development practices.

Table 1. Types of Professional Development by Project

Teacher Professional Development Supports	Enhanced Units	Get the Picture	DBI	HEROES
Group training or workshops	✓	✓	✓	
Coaching	✓	✓	✓	✓
Advanced coursework				✓

One practice implemented in all four program interventions was coaching. In each program, coaches worked directly with special education teachers by helping them learn to use new instructional tools and providing ongoing support. Coaching is unique among other types of professional development, as it allows for individualization to focus on the specific needs of the teacher or the classroom. Coaching can also help support implementation of practices learned in trainings or workshops. The continuity of professional development through coaching can lead to practices that maximize student growth (Carlisle & Berebitsky, 2011). Another common professional development practice was use of group trainings or workshops to develop an understanding of the program intervention, instructional procedures, and specific student behaviors of interest.

One common challenge with teacher professional development is maintaining engagement and participation. Teachers are committed to their students and classrooms and do not always attend professional development if it occurs during the school day and requires them to plan for a substitute teacher. Any professional development needs to demonstrate its usefulness for teachers, include flexible options for when it occurs, and make efficient use of the limited time available.

Individualized Support for Students

Each of the highlighted projects focused on individualized support for students. Research has shown that students learn in a multitude of different styles and at different rates (Garfield & Ben-Zvi, 2007). This can be a difficult challenge for teachers attempting to teach while monitoring the academic progress of an entire class of students. Some grantees developing interventions for students with disabilities have recognized this challenge and included individualized support for students in their programs as a method of adapting and guiding instruction to specific needs (Petscher et al., 2020). One example of this is evident in the project that used DBI to improve math learning for students with disabilities. Classroom instruction was targeted to each individual student’s needs. The DBI assessment tool made monitoring student progress an easier task for teachers and allowed for a detailed view of student progress and areas for improvement.

Family and Community Engagement

Family and community engagement is a key source of support for many students regardless of age or disability status. Family involvement with the school allows parents and guardians to gain an understanding of their child's experience. Parents can meet teachers, see classrooms, volunteer for school activities, and be present in their child's academic life. This is especially crucial for students with disabilities who have an individualized learning plan. These students often rely on their family to advocate for them to receive specific accommodations necessary to advance their academic goals. Additionally, through an active engagement with the school, parents and advocates can be more easily alerted to any issues or challenging experiences their child faces during the school day. Furthermore, engaging the community by increasing the number of school field trips or creating community partnerships for school activities allows students to expand their network of support. This involvement with the community creates a network of resources for students to access for academic, professional, or personal support in school or postsecondary settings.

Call to Action

Students with learning or attention issues represent approximately one out of every five children in elementary and secondary education (Corcoran & Chard, 2017). Equity in education is an essential component of ensuring that all students have access to the same opportunities for success. Families and teachers are often advocates for identifying and addressing the needs of students with disabilities. They are the first to notice when a student is struggling in a specific area or if there are any sudden changes in the student that need to be addressed. When teachers and families are aware of how HLPs can help students, they are better able to advocate for their students to district leaders in their school system. Ongoing exploration is needed to develop innovative ways to implement these practices and to determine which practices work best together.

i3 and EIR grantees have developed innovative programs designed or adapted to serve students with disabilities by addressing student challenges. These projects have produced statistically significant, positive results in elementary reading, high school U.S. history, and high school transition readiness. More research is needed to determine if similar outcomes could be achieved in other subjects. It is also important to understand the potential impact for students with disabilities as well as other high-needs students and the entire student population. Exploration of how program interventions identify specific student needs may result in a greater understanding of how to impact student outcomes with increased precision.

Resources and tools

High Leverage Practices. <https://cedar.education.ufl.edu/high-leverage-practices/>

What Works Clearinghouse Reviews of the studies described in this summary

- [Effectiveness of “Enhanced Units”: A Report of a Randomized Experiment in California and Virginia. Research Report](#)
- [Using Intensive Intervention to Improve Mathematics Skills of Students with Disabilities: Project Evaluation Report](#)
- [Get the Picture?! Final Evaluation Report](#)
- [HEROES i3 Development Grant: External Evaluation Report](#)

What Works Clearinghouse Practice Guides with a focus on children and youth with disabilities

- [Providing Reading Interventions for Students in Grades 4-9](#)
- [Assisting Students Struggling with Mathematics: Intervention in the Elementary Grades](#)
- [Assisting Students Struggling with Mathematics: Response to Intervention \(RtI\) for Elementary and Middle Schools](#)
- [Assisting Students Struggling with Reading: Response to Intervention \(RtI\) and Multi-Tier Intervention in the Primary Grades](#)

Citations/Links

Aron, L., & Loprest, P. (2012). Disability and the education system. *Future of Children*, 22(1), 97-122.

Carlisle, J. F., & Berebitsky, D. (2011). Literacy coaching as a component of professional development. *Reading and Writing*, 24, 773-800. doi: 10.1007/s11145-009-9224-4

Corcoran, M., & Chard, D. J. (2017). The State of Learning Disabilities: Understanding the 1 in 5. *The National Center for Learning Disabilities*. <https://www.nclld.org/research/state-of-learning-disabilities/>

D’Agostino, J. V., Rodgers, E., & Konstantopoulos, S. (2021) The effects of HEROES on the achievement levels of beginning readers with individualized education programs, *The Journal of Educational Research*, 114(5), 433-444. doi: 10.1080/00220671.2021.1965077 <https://www.tandfonline.com/doi/full/10.1080/00220671.2021.1965077>

Garfield, J., & Ben-Zvi, D. (2007). How students learn statistics revisited: A current review of research on teaching and learning statistics. *International Statistical Review*, 75(3), 372-396.

Giangreco, M. F., & Doyle, M. B. (2000). Curricular and instructional considerations for teaching students with disabilities in general education classrooms. In S. Wade (Ed.), *Inclusive education: A case book of readings for prospective and practicing teachers*, 1, 51-69. Hillsdale, NJ: Lawrence Erlbaum Associates.

- Grigorenko, E. L., Compton, D., Fuchs, L., Wagner, R., Willcutt, E., & Fletcher, J. M. (2019). Understanding, educating, and supporting children with specific learning disabilities: 50 years of science and practice. *American Psychologist, 75*(1), 37-51. doi: 10.1037/amp0000452
- Harris, R. S., & Hodges, C. B. (2018). STEM education in rural schools: Implications of untapped potential. *National Youth-At-Risk Journal, 3*(1), 3-12.
- Jaciw, A. P., Zacamy, J., D'Apice, H., Lin, L., Kwong, C., & Schellinger, A. M. (2019). Effectiveness of Enhanced Units: A Report of a Randomized Experiment in California and Virginia. (Empirical Education report number: Empirical_CAST_EU-7034-FR1-2019-O.3). San Mateo, CA: Empirical Education Inc.
- Ju, S., Zeng, W., & Landmark, L. J. (2017). Self-determination and academic success of students with disabilities in postsecondary education: A review. *Journal of Disability Policy Studies, 28*(3). <https://doi.org/10.1177/1044207317739402>
- Lutz S. L., Guthrie J. T., & Davis M. H. (2006). *Scaffolding for engagement in learning: An observational study of elementary school reading instruction*.
- McLeskey, J., Barringer, M-D., Billingsley, B., Brownell, M., Jackson, D., Kennedy, M., Lewis, T., Maheady, L., Rodriguez, J., Scheeler, M. C., Winn, J., & Ziegler, D. (2017, January). High-leverage practices in special education. Arlington, VA: Council for Exceptional Children & CEEDAR Center.
- Petscher, Y., Edmonds, R. Z., Arden, S., & Weingarten, Z. (2020). Using intensive intervention to improve mathematics skills of students with disabilities: Project evaluation report. *American Institutes for Research*. <https://files.eric.ed.gov/fulltext/ED603459.pdf>
- Shaywitz, S. E., & Shaywitz, B. A. (2003). Dyslexia (specific reading disability). *Pediatrics in Review, 24*(5), 147-153.
- Wells, R. S., Manly, C. A., Kommers, S., & Kimball, E. (2019). Narrowed gaps and persistent challenges: Examining rural-nonrural disparities in postsecondary outcomes over time. *American Journal of Education, 126*(1), 1-31.
- Yettick, H., Baker, R., Wickersham, M., & Hupfeld, K. (2014). Rural districts left behind? Rural districts and the challenges of administering the Elementary and Secondary Education Act. *Journal of Research in Rural Education, 29*(13).
- Zoblotsky, T., & Gallager, B. (2020). Get the Picture?! Final Evaluation Report. <https://files.eric.ed.gov/fulltext/ED608317.pdf>