

IMPROVING READING OUTCOMES FOR STUDENTS WITH SPECIAL NEEDS



In the following report, Hanover Research discusses strategies to improve literacy achievement for special needs students, as well as related professional development delivery models.

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EXECUTIVE SUMMARY AND KEY FINDINGS

INTRODUCTION

To support public school districts in improving reading outcomes of its students with special needs, the following report reviews strategies and professional development delivery models to support student literacy learning. The report comprises two sections:

- **Section I: Strategies to Improve Literacy Achievement for Special Needs Students** discusses the identification, assessment, and progress monitoring of students struggling in reading, as well as strategies to support these students. Hanover identifies strategies for primary and secondary students with reading disabilities, and for students with broader intellectual disabilities.
- **Section II: Professional Development Delivery** first provides an overview of the focus of professional development in supporting high-needs students for general and special education teachers. Hanover then identifies the characteristics of effective professional development, discusses collaborative delivery models, and highlights two research-supported literacy-focused professional development delivery models.

KEY FINDINGS

STRATEGIES TO IMPROVE LITERACY OUTCOMES

- **Districts should identify and assess students with reading disabilities, and use regular progress monitoring to inform instruction and student supports.** The Institute of Education Sciences identifies universal literacy screenings as an effective strategy to identify students in the early primary grades who are at-risk for poor reading outcomes. Educators can then use brief reading assessments to monitor student progress. Experts recommend a Response to Intervention (RtI) approach that involves continual progress monitoring to coordinate student supports and interventions across grade levels.
- **Supporting struggling primary and secondary readers begins with improving whole-class instruction.** For primary students, effective reading instruction includes a focus on phonics and integrated instruction to promote fluency, vocabulary, and comprehension. Experts highlight cooperative learning, peer tutoring, and direct instruction as effective universal interventions for primary students. While limited research addresses literacy interventions for secondary students, experts emphasize instructional differentiation and personalization as universal supports for both primary and secondary students, including those with low-incidence disabilities.
- **Primary students with reading disabilities may require more intensive small-group or one-on-one interventions.** A best-evidence synthesis indicates that one-to-one interventions with a focus on phonics are the most effective literacy interventions for primary students. Primary students with low-incidence disabilities may benefit from the same interventions if implemented for longer periods of time. While research

indicates that one-to-one and small-group interventions are also effective for secondary students, they are rarely used at this level in U.S. schools. Effective intensive secondary interventions may vary, but they typically focus on improving student motivation and differ from traditional teaching.

PROFESSIONAL DEVELOPMENT DELIVERY

- **Professional development in supporting high-needs special students should extend beyond training in basic special education policies and procedures.** The Council for Exceptional Children identifies a series of professional development standards for special educators that range from the use of effective assessments to the ability to foster continuous school improvement. Workshops for special education teachers may include professional development in supporting literacy development, inclusive strategies, and family and community engagement. For general education teachers, professional development in supporting high-needs students often centers on differentiated instruction.
- **Research indicates that professional development should last at least 14 hours and include ongoing implementation supports.** For example, Literacy Learning Cohorts, a literacy-focused and research-based professional development model for special education teachers, features an initial two-and-a-half-day institute, monthly 90-minute meetings for small groups of teachers led by coaches, and one-to-one coaching across an eight-month period. Similarly, the Literacy Collaborative, a school-wide literacy reform model, includes multiple years of coaching, team meetings, and ongoing professional development.
- **Collaborative delivery models such as coaching and professional learning communities (PLCs) can be effective in supporting teachers in improving reading outcomes for high-needs students.** The Center for Public Education notes that, ideally, schools should integrate professional developing into the school day, “preferably setting aside three to four hours per week for collaboration and coaching.”¹ Research indicates that stand-alone workshops are largely ineffective; however, districts can pair initial workshops with ongoing coaching (both in-person and online) and PLCs. The efficacy of literacy coaches may depend on the extent of their training. In the Literacy Collaborative model, schools send staff members to one of the two university training sites to be trained as literacy coaches, who then lead school-based professional development.

¹ Gulamhussein, A. “Teaching the Teachers: Effective Professional Development in an Era of High Stakes Accountability.” Center for Public Education, 2013. pp. 30-31. <http://www.centerforpubliceducation.org/Main-Menu/Staffingstudents/Teaching-the-Teachers-Effective-Professional-Development-in-an-Era-of-High-Stakes-Accountability/Teaching-the-Teachers-Full-Report.pdf>

SECTION I: STRATEGIES TO IMPROVE LITERACY ACHIEVEMENT FOR SPECIAL NEEDS STUDENTS

This section identifies strategies to improve literacy achievement for students with reading disabilities, as well as students with broader learning disabilities. While research-based strategies and interventions are often intended for Kindergarten and early elementary students, Hanover highlights strategies and interventions for secondary students whenever available.

ASSESSMENT AND PROGRESS MONITORING

To provide targeted supports to students with reading disabilities, schools should first identify these students. Following identification, subsequent monitoring of students' progress allows educators to tailor supports and interventions accordingly to best meet the diverse needs of these students.²

IDENTIFICATION AND INITIAL ASSESSMENT

In a 2014 synthesis of research on improving reading outcomes for students with or at-risk for reading disabilities, **the Institute of Education Sciences (IES) describes early universal screenings as “a valid and efficient way to identify students who are at-risk for poor reading outcomes.”**³ Professional organizations argue that the success of early intervention services such as Response to Intervention (RtI) “hinge on an accurate determination of which students are at-risk for reading disabilities.”⁴ Identifying students in Kindergarten and Grade 1 who are at-risk of developing reading disabilities allows educators to provide early reading interventions that may mitigate future disabilities. The IES finds that universal screenings in early grades typically involve the measures listed in Figure 1.1 below.⁵

Figure 1.1: Components of Universal Literacy Screenings in the Early Primary Grades



Source: IES⁶

Assessment of students' literacy skills should be linked with instructional planning. The National Joint Committee on Learning Disabilities (NJCLD) states that “assessment should lead

² Connor, C. et al. “Improving Reading Outcomes for Students with or at Risk for Reading Disabilities.” Institute of Education Sciences, 2014. pp. 2–7. <http://files.eric.ed.gov/fulltext/ED544759.pdf>

³ Ibid., p. 4.

⁴ Ibid., p. 3.

⁵ Note that while literacy screenings for preliterate children, as well as for students with basic literacy skills, are not perfectly accurate, the IES nevertheless highlights universal screenings for all students at the start of each school year as an effective way to identify students with and at-risk of developing a reading disability. For more, see: Ibid.

⁶ Figure text quoted verbatim from: Ibid., pp. 3–4.

to appropriate program planning, whether or not an individual student meets eligibility criteria for special education services.”⁷ In linking assessments to instructional planning, educators should take a team-based approach and may need to consider multiple forms of student data, including standardized test scores, qualitative analysis of student work, observations, and self-reported measures.⁸ Figure 1.2 lists best practices in assessing the literacy needs of adolescents with learning disabilities. The NJCLD notes that any assessment of adolescents’ literacy problems should ultimately provide “recommendations that are clear, specific, and meaningful so that teachers and other professionals can use them to inform instructional planning for accommodations/ modifications, behavioral supports, and type and intensity of remediation, if indicated.”⁹

Figure 1.2: Best Practices in Assessing the Literacy Needs of Adolescents with Learning Disabilities

- **Conducted by professionals who meet accepted standards** in the field and who have expertise in LD and non-biased assessment;
- **Conducted by professionals with expertise in working with adolescents** and knowledge of adolescent learning and development characteristics;
- **Individualized to address questions of concern** related to the student’s cognitive, academic, social, behavioral, motivational, and/or emotional needs
- **Sensitive to differing profiles at higher grade levels.** For example, students who remain at the early stages of literacy development; students who have not been identified at earlier grade levels; students who exhibit late-emerging problems; or students with concomitant difficulties in language, behavior, or motivation.
- **Designed to gather multiple sources of qualitative and quantitative information**, including measures that reflect student background knowledge, readability of textbooks used in different subject areas, classroom expectations, information about the use of literacy skills outside the school setting, and the need and the level of ability to use assistive technology;
- **Designed to provide sufficient data to identify and diagnose an LD** and exclude other factors as the cause of performance problems;
- **Integrated so that data interpretation results in a clear profile of the student’s strengths and weaknesses**, describes the literacy needs of the student, and provides specific recommendations that are tied to instruction, learning/behavioral supports, and transition planning.

Source: NJCLD¹⁰

REGULAR PROGRESS MONITORING

Following the identification of students with or at-risk of developing a reading disability, schools may use regular progress monitoring to plan targeted instruction and student supports. The National Research Council (NRC) finds that “in [primary] schools with effective classroom reading instruction, students receive regular brief reading assessments so that

⁷ “Adolescent Literacy and Older Students with Learning Disabilities.” National Joint Committee on Learning Disabilities, 2008. p. 8. <http://www.ldonline.org/?module=uploads&func=download&fileId=755>

⁸ Ibid.

⁹ Ibid., p. 11.

¹⁰ Figure bullets quoted verbatim from: Ibid., pp. 9–10.

their reading growth can be monitored.”¹¹ Progress monitoring of early literacy skills may involve regular assessment of how many words students can read in a one-to-two-minute period.¹² For students in Grade 1, the IES identifies the Word Identification Fluency measure as “well suited as a screening and progress-monitoring mechanism that can be used to make accurate decisions regarding children’s movement within a tiered RtI model.”¹³

Both the IES and NJCLD recommend a multi-tiered RtI approach to address the literacy needs of all students. An RtI approach incorporates regular student progress monitoring and allows educators to assess the efficacy of specific interventions and tailor supports as needed.¹⁴ Regarding the frequency of progress monitoring, the IES recommends that schools assess the progress of students receiving Tier 2 supports at least once a month.¹⁵ Although research on RtI implementation at the secondary level is more limited than that at the primary level, the NJCLD also recommends a tier-based progress monitoring model to support adolescents with literacy disabilities.¹⁶ In a 2016 article on improving professional development to support positive reading outcomes for special education students, Lemons et al. similarly advocate that educators should receive training in data-based individualization (DBI), “a framework for using data to guide ongoing adaptations to intensify intervention for students who have demonstrated a persistent lack of response.”¹⁷

STRATEGIES FOR STUDENTS WITH READING DISABILITIES

Strategies and interventions to support students with reading disabilities vary by grade level and in accordance with each student’s unique reading difficulties. The Center on Instruction observes that students with reading disabilities differ in the extent to which they struggle to read, as well as in the type of their difficulty. Some students (e.g., those with dyslexia) may have strong vocabulary skills but struggle to read texts accurately and fluently, while others may lack effective reading strategies or have difficulties with the thinking skills needed to construct meaning from the text.¹⁸ The following subsections identify research-based strategies to support primary and secondary students with reading disabilities, as well as students with broader intellectual disabilities.

¹¹ Denton, C. “Classroom Reading Instruction That Supports Struggling Readers: Key Components for Effective Teaching.” National Research Council.

<http://www.rtinetwork.org/essential/tieredinstruction/tier1/effectiveteaching>

¹² Ibid.

¹³ Connor et al., Op. cit., pp. 7–8.

¹⁴ [1] Ibid., pp. 7–9. [2] “Adolescent Literacy and Older Students with Learning Disabilities,” Op. cit., pp. 8–9.

¹⁵ “Best Practice for RTI: Monitor Progress of Tier 2 Students.” What Works Clearinghouse.

<http://www.readingrockets.org/article/best-practice-rti-monitor-progress-tier-2-students>

“Adolescent Literacy and Older Students with Learning Disabilities,” Op. cit., p. 9.

¹⁷ Lemons, C. et al. “Improving Professional Development to Enhance Reading Outcomes for Students in Special Education.” *New Directions for Child & Adolescent Development*, 154, 2016. p. 90. Accessed via DeepDyve.

¹⁸ Torgesen, J. et al. “Academic Literacy Instruction for Adolescents.” Center on Instruction, 2007. p. 67.

<http://www.centeroninstruction.org/files/Academic%20Lit%20Instr%20for%20Adolescents%20Guidance%20Doc%20COI.pdf>

FOR PRIMARY STUDENTS

Literacy supports and interventions are often targeted at children in Kindergarten and elementary school.¹⁹ Research associates weak early reading skills with a variety of negative outcomes, including poor academic achievement in primary and secondary grades, increased need for special education services and remediation, grade repetition, delinquency, and eventual high school dropout.²⁰ Consequently, in their 2009 synthesis of 96 studies on programs for struggling readers in Kindergarten through Grade 5, Slavin et al. note that “even very expensive interventions [for young children] can be justified on cost-effectiveness grounds alone.”²¹ Supports typically involve a combination of universal interventions (e.g., improvement of general classroom instruction) and more intensive supports (e.g., small-group and one-to-one interventions).²²

UNIVERSAL SUPPORTS

Supporting struggling readers in the primary grades begins with high-quality classroom literacy instruction. Slavin et al. identify improving classroom instruction as a key support for students who experience continued difficulties in literacy.²³ According to the NRC:²⁴

Effective classroom reading instruction includes teaching phonemic awareness (in kindergarten and 1st grade, and for older students who need it) and phonics or word study explicitly and directly with opportunities to apply skills in reading and writing connected text with integrated instruction in fluency, vocabulary, and comprehension.

In addition, teachers should provide all students with instruction in reading skills, strategies, and concepts, as described below:²⁵

- **Skills** are things students learn to do. In reading, students must learn skills such as associating letters with their sounds (such as saying the sound of the letter b and blending these sounds to form words [as in sounding out words]).
- **Strategies** are routines or plans of action that can be used to accomplish a goal or work through difficulty. Students can be taught strategies to use when they come to a word they don't know, strategies for spelling unknown words, strategies to help them write summaries of paragraphs, and other kinds of strategies.
- Students must learn **concepts, or ideas**. They need background knowledge related to reading and to the topics they are reading about.

¹⁹ Wexler, J. et al. “The Efficacy of Repeated Reading and Wide Reading Practice for High School Students with Severe Reading Disabilities.” *Learning Disabilities Research & Practice*, 1:25, 2010.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2980335/>

²⁰ [1] Slavin, R. et al. “Effective Programs for Struggling Readers: A Best-Evidence Synthesis.” Johns Hopkins University, Center for Data-Driven Reform in Education, 2009. p. 5.

http://www.bestevidence.org/word/strug_read_Jul_07_2011.pdf [2] Connor et al., Op. cit., p. viii.

²¹ Slavin et al., Op. cit., p. 5.

²² Ibid., p. 3.

²³ Ibid.

²⁴ Quoted verbatim from: Denton, Op. cit.

²⁵ Bullets quoted verbatim from: Ibid.

Teachers should also differentiate their literacy instruction to support struggling students. Both the IES and NRC find that high-quality instruction is unlikely to meet students’ diverse needs unless it is differentiated.²⁶ Teachers may use a combination of whole-class and small group instruction to provide differentiated instruction, as well as adapt their instruction for struggling students using the strategies listed in Figure 1.3 below.

Figure 1.3: Strategies for Differentiating General Literacy Instruction

<i>Primary teachers can adapt their instruction for students with reading disabilities by:</i>	
✓	Teaching the specific skills and strategies that students need to learn, based on assessment data;
✓	Making instruction more explicit and systematic;
✓	Increasing opportunities for practice;
✓	Providing appropriate text at students' instructional reading levels (not too easy but not too hard); and
✓	Monitoring students' mastery of key skills and strategies and re-teaching when necessary.

Source: NRC²⁷

In addition, **Slavin et al. find that cooperative learning, peer tutoring, direct instruction, and an emphasis on phonetics support the literacy development of low-achieving primary student.** Figure 1.4 describes recommended universal interventions for struggling students, which also support average primary readers.²⁸

Figure 1.4: Universal Interventions for Struggling Primary Readers

UNIVERSAL INTERVENTION	DESCRIPTION
Cooperative Learning	For example, Cooperative Integrated Reading and Composition (CIRC) is a cooperative learning program in which, following teacher instruction to the whole class, children work in 4-member teams on partner reading, comprehension questions, story-related writing, and comprehension activities. Teams earn recognition based on the average scores earned on individual tests given each week.
Same-Age Peer Tutoring	For example, in one study, children reading below grade level were assigned to pairs with normal-progress reading partners. Grade-level texts were used. The partners “set the pace for reading, read in phase units, and touched each word as it was being read.
Direct Instruction	Direct Instruction (DI) is a structured, phonetic approach in which teachers use step-by-step materials and methods to help children master decoding and comprehension skills.
Focus on Phonetics	For example, Project Read is a phonetic approach to beginning reading instruction based on the Orton-Gillingham method, originally designed for tutoring students with dyslexia. Project Read similarly uses a systematic phonics progression, systematic approaches to building comprehension, writing, and spelling, and extensive professional development for teachers.

Center for Data-Driven Reform in Education²⁹

²⁶ [1] Connor et al., Op. cit., p. 39. [2]

²⁷ Figure bullets quoted verbatim from: Denton, Op. cit.

²⁸ Slavin et al., Op. cit., pp. 75–85.

²⁹ Figure text quoted verbatim with minor changes from: Ibid.

TARGETED SUPPORTS

Primary students with reading disabilities may require more intensive small group or one-to-one interventions and supports to improve reading outcomes.³⁰ The IES finds that “increasing the intensity of interventions in Kindergarten and first grade may prevent reading difficulties for many students.”³¹ Specifically, research suggests that intensive instruction in “key literacy components such as oral language, phonological awareness, and letter knowledge” can correct for early deficits and mitigate future problems associated with early reading disabilities.³² Slavin et al. find that one-to-one tutoring programs delivered by a teacher that have a focus on phonics are the most effective literacy intervention for primary students.³³ The authors also find that interventions administered to small groups of students may be less effective than one-on-one interventions administered by a teacher or paraprofessional.³⁴

FOR SECONDARY STUDENTS

In a 2010 article published in *Learning Disabilities Research & Practice*, Wexler et al. comment that “**considerably less attention has been provided to remediating reading difficulties at the secondary level than at the primary level.**”³⁵ Reading comprehension difficulties for adolescents often stem from a limited vocabulary or concept knowledge, or inadequate reading strategies. The Center on Instruction finds that students may require extra instructional support with “explicit and direct” instruction in effective reading strategies.³⁶ Research indicates that fluency interventions in peer pairing formats, in which an above average student is typically paired with a below average student, are common and effective across grade levels.³⁷ However, repeated reading and wide reading practices may not be as effective at the high school level.³⁸

Improving whole-class instruction may be the most effective strategy to support struggling secondary students. In their 2016 review of 65 studies that use either random assignments or high-quality quasi-experiments to evaluate secondary reading programs, Baye et al. find that (with the exception of one-to-one tutoring) programs involving increased instructional time for students with literacy disabilities were “no more effective than programs provided to entire classes and schools without adding instructional time.”³⁹ However, the authors note that all studies examining one-to-one supports were conducted in England and that both one-

³⁰ Connor et al., *Op. cit.*, p. 37.

³¹ *Ibid.*, p. 30.

³² *Ibid.*, p. 29.

³³ Slavin et al. find that one-to-one programs administered by a teacher with a focus on phonics had a mean effect size of 0.69, in comparison to programs without a focus on phonics which had an effect size of 0.23. See: Slavin et al., *Op. cit.*, pp. 42–43.

³⁴ *Ibid.*, pp. 113–114.

³⁵ Wexler et al., *Op. cit.*

³⁶ Torgesen et al., *Op. cit.*, p. 80.

³⁷ Wexler et al., *Op. cit.*

³⁸ *Ibid.*

³⁹ Baye, A. et al. “Effective Reading Programs for Secondary Students.” Johns Hopkins University, Center for Research and Reform in Education, 2016. p. 2. http://www.bestevidence.org/reading/mhs/mhs_read.htm

to-one and small group tutoring were rarely used in U.S. secondary schools.⁴⁰ While effective programs had ranging characteristics, the authors observe that these programs all demonstrated personalization and motivation:⁴¹

No program that showed positive effects in this review involved anything like traditional teaching. If secondary schools are to make real breakthroughs with struggling readers, they are going to have to do something much more motivating, more personalized, and more likely to give students a belief in their own capacity for learning.

FOR STUDENTS WITH INTELLECTUAL DISABILITIES

Effective strategies for primary students with literacy disabilities may also be effective for students with low incidence disabilities, if implemented over multiple grade levels. For example, according to the IES, research indicates that “[early primary] students with mild to moderate intellectual disabilities can learn basic reading skills given consistent, explicit, and comprehensive reading instruction across an extended period of time – about three years.”⁴² Figure 1.5 below lists the key components of comprehensive instruction. Early reading instruction for students with moderate intellectual disabilities should include systematic instruction in phonological awareness and phonics.⁴³ The Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR) Center identifies read-aloud as a research-supported strategy to promote textual understanding and increase engagement with grade-level texts. Language arts instruction “may include additional targets, such as the development of vocabulary and simplified ways to write text.”⁴⁴

Figure 1.5: Components of Comprehensive Instruction



Source: Center for Literacy & Disability Studies⁴⁵

For a discussion of research-based practices for creating access to the general curriculum in reading and literacy for students with significant intellectual disabilities, see the source footnote.

The NJCLD states that “[literacy] instruction at the middle and secondary levels requires a continuum of services that is differentiated according to the individual learning needs of each student.”⁴⁶ Depending on their specific needs, students may benefit from differentiated

⁴⁰ Ibid., p. 20.

⁴¹ Quoted verbatim from: Ibid., pp. 72–73.

⁴² Connor et al., Op. cit., pp. 43–50.

⁴³ Ibid., pp. 44–46.

⁴⁴ Browder, D., L. Wood, and J. Thompson. “Evidence-Based Practices for Students with Severe Disabilities.” The CEEDAR Center, University of North Carolina at Charlotte, 2014. p. 24. http://cedar.education.ufl.edu/wp-content/uploads/2014/09/IC-3_FINAL_03-03-15.pdf

⁴⁵ Figure text quoted verbatim from: Erickson, K. et al. “Research-Based Practices for Creating Access to the General Curriculum in Reading and Literacy for Students with Significant Intellectual Disabilities.” Center for Literacy & Disability Studies, University of North Carolina at Chapel Hill, 2009. p. 1. http://www.ccsso.org/Documents/2009/Research_Based_Practices_Reading_2009.pdf

⁴⁶ “Adolescent Literacy and Older Students with Learning Disabilities,” Op. cit., p. 11.

literacy instruction within a general education classroom or “require sustained and intensive combinations of classroom instruction, remediation, and accommodations that are individualized, explicit, systematic, and relevant.”⁴⁷ For secondary students with learning disabilities, the NJCLD describes a set of guiding principles for literacy instruction, listed in Figure 1.6 below.

Figure 1.6: Guiding Principles for Literacy Instruction of Secondary Students with Learning Disabilities

- ✓ Target areas that are critical to reading and writing proficiency.
- ✓ Combine strategy-based instruction/remediation with skill-based instruction.
- ✓ Teach literacy strategies within the context of content area material and discipline-specific literacy.
- ✓ Provide clearly-scaffolded and sequenced instruction/remediation that strives toward helping students become independent learners.
- ✓ Provide repeated opportunities to apply and generalize strategies and skills.
- ✓ Identify and incorporate strategies and tools that provide support for acquisition of critical literacy skills necessary in print and digital environments.
- ✓ Actively use student performance assessment data to monitor progress, determine continuing instructional/remedial needs, and obtain information about the student’s strengths and interests to incorporate into instructional planning.

Source: NJCLD⁴⁸

FOR STUDENTS WITH AUTISM SPECTRUM DISORDERS

Effective literacy strategies for students with autism spectrum disorders may be different from those for students with other intellectual disorders. In general, students with autism spectrum disorders benefit from teachers maintaining a consistent classroom environment, using visual instructions, developing a “calming area,” and minimizing distractions. In a 2015 article published in the *DiaLog*, Pinto et al note that “teachers who understand how students with autism function and can accept their uniqueness are the most successful.”⁴⁹ In addition to early literacy instruction, peer tutoring, repeated reading (strategies also identified as effective for students with reading disabilities), literature-based instruction, and the use of visual cues, modeling, social stories, self-monitoring, and computer assisted instruction may all support students with autism spectrum disorders in developing literacy skills.⁵⁰

⁴⁷ Ibid., p. 12.

⁴⁸ Ibid., pp. 11–14.

⁴⁹ Pinto, P. et al. “Effectiveness of Instructional Strategies in Fostering Literacy Skills of Students with Autism Spectrum Disorders.” *DiaLog: Journal of the Texas Educational Diagnosticians Association*, 44:1, 2015. p. 10.

⁵⁰ Ibid., pp. 11–14.

SECTION II: PROFESSIONAL DEVELOPMENT DELIVERY

This section discusses the focuses of professional development for general and special education teachers in supporting high-needs students in literacy development, and identifies the characteristics of effective professional development and discusses collaborative delivery models. Later in this section, we also outline two research-supported literacy-focused professional development delivery models.

PROFESSIONAL DEVELOPMENT FOCUSES

Experts commonly recommend that general education teachers receive training in differentiating instruction to support students with varied abilities, learning styles, and needs.⁵¹ Federal regulation such as the Individuals with Disabilities Act (IDEA) enforces the placement of students with disabilities in the “least restrictive environment” possible. Consequently, general education teachers often provide instruction for students with a wide range of abilities within the same inclusive classroom.⁵² Differentiated instruction is a philosophy of teaching and learning that accounts for student differences in abilities, learning, background, and other characteristics. Teachers who effectively differentiate their instruction “respond to learner needs in the way the content is presented..., the way content is learning..., and the ways students respond to the content.”⁵³ As teacher preparation programs may provide insufficient opportunities to practice differentiated instruction, districts or schools should offer tailored professional development in this area to in-service teachers.⁵⁴

FOR SPECIAL EDUCATION TEACHERS

Comprehensive professional development programs for special education teachers extend beyond training in basic special education policies and procedures. For example, the Council for Exceptional Children (CEC) developed standards to guide initial and advanced special educator preparation. The advanced-level standards are intended to guide training of special educators who hold a valid teaching credential and attended an advanced-level preparation program “designed for candidates holding valid special education credential[s].”⁵⁵ Figure 2.1 below lists the advanced-level preparation standards, in areas ranging from assessment and content knowledge to leadership and policy.

⁵¹ [1] “Common Core State Standards & the Transformation of Professional Development.” Education First, 2014. p. 12. http://education-first.com/wp-content/uploads/2014/10/CCSS_PD_Brief_1_-_Essential_Elements_of_PD.pdf

[2] Dixon, F. et al. “Differentiated Instruction, Professional Development, and Teacher Efficacy.” *Journal for the Education of the Gifted*, 37:2, 2014. pp. 111–113.

⁵² George, C. “When Connor Came to Class: Building an Inclusive Classroom - Education Week.” *Teacher*, March 7, 2017. <http://www.edweek.org/tm/articles/2017/03/07/when-connor-came-to-class-building-an.html?qs=inclusive+classroom>

⁵³ Dixon et al., Op. cit., p. 113.

⁵⁴ Ibid., pp. 114–115.

⁵⁵ “Standards for Initial and Advanced Special Educator Preparation.” Council for Exceptional Children, 2015. <https://www.cec.sped.org/~media/Files/Standards/Professional%20Preparation%20Standards/Standards%20for%20Initial%20and%20Advanced%20Special%20Educator%20Preparation%20Fig%2011.pdf>

Figure 2.1: Advanced-Level Preparation Standards for Special Educators

CATEGORY	STANDARD
Assessment	Special education specialists use valid and reliable assessment practices to minimize bias.
Curricular Content Knowledge	Special education specialists use their knowledge of general and specialized curricula to improve programs, supports, and services at classroom, school, community, and system levels.
Advanced Preparation Standard	Special education specialists facilitate the continuous improvement of general and special education programs, supports, and services at the classroom, school, and system levels for individuals with exceptionalities.
Research and Inquiry	Special education specialists conduct, evaluate, and use inquiry to guide professional practice.
Leadership and Policy	Special education specialists provide leadership to formulate goals, set and meet high professional expectations, advocate for effective policies and evidence-based practices, and create positive and productive work environments.
Professional and Ethical Practice	Special education specialists use foundational knowledge of the field and professional ethical principles and practice standards to inform special education practice, engage in lifelong learning, advance the profession, and perform leadership responsibilities to promote the success of professional colleagues and individuals with exceptionalities.
Collaboration	Special education specialists collaborate with stakeholders to improve programs, services, and outcomes for individuals with exceptionalities and their families.

Source: CEC⁵⁶

Workshops for special education teachers may include professional development in supporting literacy, inclusive strategies, and family and community engagement. For example, at its 2017 Special Education Collaborative Supports Conference, the Wisconsin Department of Public Instruction (DPI)’s workshops feature the following topics:⁵⁷

- College and Career Ready IEPs: Improving Outcomes for Students with IEPs ages 3-21;
- Supporting Social, Emotional and Mental Health as a Foundation for Learning;
- Literacy Supports;
- Student, Teacher, and Peer Relationships; Family and Community Engagement;
- System Changes to Improve Outcomes; and
- Inclusive Strategies.

Similarly, the 2018 Special Education Convention hosted by the CEC includes workshops on both the technical and practical aspects of special education. Workshop topics include: “developing legally defensible IEPs;” an overview of special education for administrators; strategies and supports for addressing students with mental health needs; strategies for

⁵⁶ Figure text quoted verbatim from: “Advanced Preparation Standards.” Council for Exceptional Children, 2015. pp. 1–4.
<https://www.cec.sped.org/~media/Files/Standards/Professional%20Preparation%20Standards/Advanced%20Preparation%20Standards.pdf>

⁵⁷ Bullets quoted verbatim from: “2017 Special Education Collaborative Supports Conference.” Wisconsin Department of Public Instruction. <https://dpi.wi.gov/sites/default/files/imce/sped/pdf/pst-collab-flyer.pdf>

improving the behavior of struggling students; and data use to individualize and intensify supports.⁵⁸

CHARACTERISTICS OF EFFECTIVE PROFESSIONAL DEVELOPMENT DELIVERY

Research suggests that effective professional development should be “intensive, relevant, and encourage collaboration.”⁵⁹ Experts find that there is limited research examining what constitutes effective professional development and that traditional professional development is often ineffective, as it fails to change teaching practices or improve student achievement.⁶⁰ To improve professional development delivery, the Center for Public Education (CPE) highlights that effective professional development should follow the principles listed in Figure 2.2.

Figure 2.2: Principles of Effective Professional Development

PRINCIPLE	DESCRIPTION
Duration	The duration of professional development must be significant and ongoing to allow time for teachers to learn a new strategy and grapple with the implementation problem.
Implementation Support	There must be support for a teacher during the implementation stage that addresses the specific challenges of changing classroom practice.
Active Learning	Teachers’ initial exposure to a concept should not be passive, but rather should engage teachers through varied approaches so they can participate actively in making sense of a new practice.
Modeling	Modeling has been found to be a highly effective way to introduce a new concept and help teachers understand a new practice.
Personalized Content	The content presented to teachers shouldn’t be generic, but instead grounded in the teacher’s discipline (for middle school and high school teachers) or grade-level (for elementary school teachers).

Source: CPE⁶¹

DURATION

Longer professional development programs that provide implementation support are more likely to change teachers’ practices and positively impact student learning. The CPE notes that “this is likely because extended professional development sessions often include time to practice application of the skill in one’s own class, allowing the teacher to grapple with the transfer of skills problem.”⁶² In a 2007 report published by the IES, Yoon et al. identified (out of a pool of more than 1,300 potential studies) nine experimental or quasi-experimental studies that used control groups with pre- and post-test designs to examine the effect of

⁵⁸ “Special Education Convention and Expo.” Council for Exceptional Children. <http://www.ceconvention.org/convention-workshops/>

⁵⁹ Connor et al., Op. cit.

⁶⁰ [1] Loveless, T. “What do we know about professional development?” The Brookings Institute, 2014. <https://www.brookings.edu/research/what-do-we-know-about-professional-development/> [2] Nishimura, T. “Effective Professional Development of Teachers: A Guide to Actualizing Inclusive Schooling.” *International Journal of Whole Schooling*, 10:1, 2014. p. 21. <http://files.eric.ed.gov/fulltext/EJ1016781.pdf>

⁶¹ Figure content adapted and quoted verbatim from: Gulamhussein, Op. cit., pp. 3–4.

⁶² Ibid., p. 14.

different professional development programs on student achievement. These studies, which all considered professional development and student achievement at the elementary level, indicate that **programs with a duration of 14 hours or less had no significant impact on student achievement.** Conversely, programs with a duration of more than 14 hours had a significant, positive effect on student achievement. Notably, all but one four-week long program included follow-up sessions after the main professional development event.⁶³

DELIVERY MODELS

Collaborative professional development delivery models allow for personalized content and promote active learning through modeling and other strategies. Research indicates that

traditional professional development workshops “are not only largely ineffective at changing teachers’ practice, but a poor way to convey theoretical concepts and evidence-based research.”⁶⁴ Delivery models that position teachers as active learners better reinforce professional development content. Strategies and delivery models that promote active learning often involve collaboration and include “readings, role playing techniques, open-ended discussion of what is presented, live modeling, and visits to classrooms to observe and discuss the teaching methodology.”⁶⁵ The

“The ideal structure for ongoing professional development is to provide teachers time embedded in the school day, preferably setting aside three to four hours per week for collaboration and coaching.”

CPE notes that “the ideal structure for ongoing professional development is to provide teachers time embedded in the school day, preferably setting aside three to four hours per week for collaboration and coaching.”⁶⁶ As staff only have time available for so much embedded professional development, after school professional development can provide additional time. However, teacher contracts may constrain how much time can be added to teachers’ schedules.⁶⁷

Similarly, the IES finds that **effective professional development in improving reading outcomes for high-needs students combines multiple collaborative delivery models.** Common strategies include “coaching, linking student assessment data to instruction, using technology, and participating in communities of practice can support teachers’ learning and implementation of research-based reading instruction.”⁶⁸ Districts may combine traditional workshops with ongoing collaborative professional development to support students who struggle in literacy development. For example, a 2009 study published in *Reading & Writing* finds that professional development featuring “frequent in-class support from highly knowledgeable mentors for one school year, in addition to an introductory two-day summer

⁶³ Yoon, K.S. et al. “Reviewing the Evidence on How Teacher Professional Development Affects Student Achievement.” Institute of Education Sciences, 2007. p. 12.
https://ies.ed.gov/ncee/edlabs/regions/southwest/pdf/REL_2007033.pdf

⁶⁴ Gulamhussein, Op. cit., p. 16.

⁶⁵ Ibid.

⁶⁶ Ibid., pp. 30–31.

⁶⁷ Ibid.

⁶⁸ Connor et al., Op. cit., p. 54.

institute and monthly workshops” leads to an increase in teachers’ knowledge of literacy concepts.⁶⁹ Figure 2.3 below describes the four basic delivery options offered by Keys to Literacy (KTL), an organization that provides professional development in literacy to teachers across grade levels.

Figure 2.3: Keys to Literacy Professional Development Delivery Models

MODEL	OVERVIEW	SAMPLE DETAILS
Provided by Trainers	Keys to Literacy trainers provide professional development that includes initial teacher training, administrator training, peer-coach training, and follow-up coaching for teachers.	<p>Keys to Literacy trainers provide professional development that includes initial teacher training, administrator training, peer-coach training, and follow-up coaching for teachers.</p> <p style="text-align: center;">Initial Teacher Training</p> <ul style="list-style-type: none"> ▪ Full on-site training delivered by a KTL trainer over full-days or half-days; or ▪ Onsite training delivered by a KTL trainer for a full or half-day, combined with teacher completion of online training course <p style="text-align: center;">Follow-up Professional Development for Teachers</p> <ul style="list-style-type: none"> ▪ Onsite follow-up – delivered by KTL trainer ▪ Customized follow-up – may include observations, model lessons, lesson planning, teacher coaching, implementation support, facilitating PLC and small group share meetings, review workshops
Online	Teachers have access to a variety of online courses.	<p>Each course is organized into modules that include interactive activities, readings, video clips from live training, and “use your content” activities that allow users to generate lessons using their own content curriculum materials. Courses range from 9.5 to 23.5 hours to complete. Course titles include:</p> <ul style="list-style-type: none"> ▪ The Key Comprehension Routine ▪ Keys to Comprehension and Vocabulary for Students with Learning Disabilities ▪ Keys to Comprehension and Vocabulary for SEI or English as a Second Language
Train-the-Trainer	Keys to Literacy trains literacy specialists to become Level I licensed trainers who are licensed and trained to deliver in-house professional development	<p style="text-align: center;">Level I Train-the Trainer Session</p> <ul style="list-style-type: none"> ▪ Literacy specialists attend a 5-day train-the-trainer where they learn the instructional practices for a KTL routine, coaching techniques, and how to deliver Level I training to educators and administrators. <p style="text-align: center;">PD for Building-Based Peer Coaches</p> <ul style="list-style-type: none"> ▪ Keys to Literacy provides onsite or online PD for building coaches. <p style="text-align: center;">Follow Up PD for Level I Licensed Trainers</p> <ul style="list-style-type: none"> ▪ Keys to Literacy provides onsite or online coaching and consultation to administrators and Level I trainers to: <ul style="list-style-type: none"> ○ Develop a plan to train teachers

⁶⁹ Brady, S. et al. “First Grade Teachers’ Knowledge of Phonological Awareness and Code Concepts: Examining Gains from an Intensive Form of Professional Development and Corresponding Teacher Attitudes.” *Reading & Writing*, 22, 2009. p. 425. <http://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=508051663&site=ehost-live>

MODEL	OVERVIEW	SAMPLE DETAILS
		<ul style="list-style-type: none"> ○ Support mastery of KTL instructional practices ○ Provide implementation support
Self-Guided	Individuals or groups of teachers can learn KTL instructional practices by taking KTL online training courses, paired with a book study	KTL offers professional book discussion guides to facilitate individual, small-group, or large-group book studies. KTL recommends that literacy or instructional coaches take an online course to build background knowledge in order to facilitate book study groups.

Source: Keys to Literacy⁷⁰

COLLABORATIVE DELIVERY MODELS

The following subsections expand upon two prominent collaborative professional development delivery models: coaching and professional learning communities (PLCs).

COACHING

Literacy coaching is a common collaborative professional development delivery model across U.S. schools. While the role and responsibilities of a literacy coach vary, coaches can provide professional development in large- or small-group settings, as well as in a one-to-one format. Following initial professional development workshops, coaches can support teachers in implementing effective practices through modeling of skills and practices, co-teaching, and classroom observations paired with feedback.⁷¹ Experts recommend that literacy coaches and teachers adopt a “sharing teaching” approach, which “brings teachers together in an inquiry stance to think together about the work they do every day and how it might be better. It is a rejection of the traditional mentality.” Figure 2.4 lists some example formats for shared teaching.

Figure 2.4: Examples of Shared Teaching Formats

FORMAT	DESCRIPTION
Master teacher observation	The teacher and coach observe a master teacher together. They discuss the classroom environment and activities. The observation and discussion allow for critical conversations about what is happening in both the novice teacher’s and master teacher’s classes.
Formative observations	When conducting formative observations, some coaches may choose to use an observation rubric similar to that used during a summative evaluation. Others may rely on field notes and reflections of the time spent in the teacher’s classroom.
Teach-coach conferences	Real coaching often takes place when coaches talk with teachers. Teacher-coach conferences help teachers reflect on current practices, engage in genuine inquiry, and maintain a focus on student learning.

⁷⁰ Figure content quoted verbatim and adapted from: “PD Delivery Options.” Keys to Literacy.

<https://keystoliteracy.com/services/professional-development-delivery/options/> [See each page for details]

⁷¹ Mraz, M. et al. “Teaching Better, Together: Literacy Coaching as Collaborative Professional Development.” *English Teaching Forum*, 2016. p. 55.

<http://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=120073244&site=ehost-live>

FORMAT	DESCRIPTION
Attending professional development as a team	A coach can attend the same professional development or teacher-training session as the novice teacher. The brainstorming Literacy coaching often has a long-lasting influence on teacher practice, especially for those who are beginning their careers. The brainstorming partnership between coach and teacher is extremely constructive for developing new ideas or strategies to use in the classroom.
Literacy groups	A mutual support group of up to 15 teachers meets once a month to discuss issues and challenges that arise in the classroom, such as a research topic of the month or other academic concerns. However, rather than having an academic supervisor act as a facilitator, the group is led by a literacy coach well versed in the needs of the teachers.

Source: English Teaching Forum⁷²

Limited research indicates that coaching is effective in helping teachers implement a new practice, as well as in raising students’ literacy achievement. For example, the CPE notes that modeling, where a coach or an expert demonstrates a new practice, is “particularly successful in helping teachers understand and apply a concept and remain open to adopting it.”⁷³ In a 2010 study published in *The Elementary School Journal*, Biancarosa, Bryk, and Dexter find that a program where elementary school teachers participated in a 40-hour workshop followed by one-to-one coaching opportunities over a period of three years led to student achievement gains across 17 schools.⁷⁴

The efficacy of literacy coaches may depend on the extent of their training. In their review of research, Biancarosa, Bryk, and Dexter identified two earlier empirical studies on the effects of coaches on students’ literacy growth. One study focused on coaching in elementary school, while the other involved coaching at the middle school level. While these studies found that coaching had minimal-to-no-effect on student literacy achievement, the authors stressed that the literacy coaches received a week of training or less and that neither coaching model was “well established.” Conversely, the Literacy Collaborative coaching model, the focus of Biancarosa, Bryk, and Dexter’s study, involves a year-long, graduate-level training program for school literacy coaches. This training includes “coverage of the theory and content of literacy learning, how to teach children within [Literacy Collaborative]’s instructional framework, and how to develop these understandings in other teachers through site-based PD and coaching.”⁷⁵

VIRTUAL COACHING

Online delivery of professional development can be a flexible option in schools with limited dedicated time for professional development. The IES finds that “technology appears to enhance professional development and online coaching can be as effective as face-to-face coaching.”⁷⁶ Lemons et al. note that online training and virtual coaching can be used when

⁷² Figure text quoted verbatim from: Ibid., pp. 28–29.

⁷³ Gulamhussein, Op. cit., p. 17.

⁷⁴ Biancarosa, G., A. Bryk, and E. Dexter. “Assessing the Value-Added Effects of Literacy Collaborative Professional Development on Student Learning.” *The Elementary School Journal*, 111:1, 2010. p. 7.
<http://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=508180816&site=ehost-live>

⁷⁵ Ibid., pp. 8–9.

⁷⁶ Connor et al., Op. cit., p. 57.

professional development is provided by school staff and by external personnel. The authors highlight a well-received professional development program delivered to special education teachers and paraprofessionals by a team of IES-funded researchers to support them in delivering “an early reading intervention for children and adolescents with Down syndrome.”⁷⁷ The program involved a series of in-person meetings and coaching online or over the phone, a training manual and series of videos describing the intervention, and multiple observations of the teachers and paraprofessionals implementing the intervention (followed by additional coaching as needed).⁷⁸

INDUCTION SUPPORTS

Districts may also integrate professional development coaching in literacy into a series of induction supports for new teachers. Lemons et al. recommend developing a university-support induction program for new teachers to support them in their implementation of data-based individualization to support students with literacy disabilities. In a highlighted program, mentors received training from local university faculty and then provided instructional coaching during their newly inducted colleagues’ first two years of teaching.⁷⁹

PROFESSIONAL LEARNING COMMUNITIES (PLCs)

PLCs can provide an infrastructure for regular collaboration and reflection on literacy instruction. Research identifies PLCs as a professional development model that improves teaching and learning.⁸⁰ PLCs that include teachers and other school staff may focus on how to implement specific literacy interventions and use regularly monitor to adjust the interventions.⁸¹ In a 2012 article published in the *Journal of Special Education Technology*, Hardman states that “in special education, the most effective PLCs are those that include general and special educators, school- and district-level administrators, and teacher educators.”⁸² While the scheduling of PLCs may vary, teachers require common planning time to meet regularly, in addition to independent planning time.⁸³ The Association for Supervision and Curriculum Development (ASCD) identifies the following best practices for implementing PLCs:⁸⁴

- Team up with a colleague to observe each other’s practice;
- Make sure all adopted strategies are grounded in research;

⁷⁷ Lemons et al., Op. cit., p. 96.

⁷⁸ Ibid.

⁷⁹ Ibid., pp. 95–96.

⁸⁰ [1] Pirtle, S. “Implementing Effective Professional Learning Communities.” *SEDL Insights*, 2:3, 2014. p. 1. http://www.sedl.org/insights/2-3/implementing_effective_professional_learning_communities.pdf [2] Lemons et al., Op. cit., p. 97.

⁸¹ Lemons et al., Op. cit., p. 97.

⁸² Hardman, E. “Supporting Professional Development in Special Education with Web-Based Professional Learning Communities: New Possibilities with Web 2.0.” *Journal of Special Education Technology*, 27:4, 2012. p. 17.

⁸³ Rettig, M. “Designing Schedules to Support Professional Learning Communities.” *Leadership Compass*, 5:2, 2007. https://www.naesp.org/sites/default/files/resources/2/Leadership_Compass/2007/LC2007v5n2a1.pdf

⁸⁴ Bullets quoted verbatim from: “Best Practices for Professional Learning Communities.” ASCD, 2014. <http://www.ascd.org/ASCD/pdf/siteASCD/publications/plc-best-practices-infographic.pdf>

- Rotate group leadership;
- Try the ideas in a real-world setting;
- Each participant writes down the action they commit to taking before the next meeting;
- Keep a journal to track your experience and reflect on implementing new strategies;
- Create protocols for talking and behaving; and
- Spend the last 10-15 minutes of the meeting reflecting on the session itself.

LITERACY-FOCUSED PROFESSIONAL DEVELOPMENT MODELS

Both general and special education teachers likely require professional development in supporting struggling readers.⁸⁵ As general education teachers may lack the skills and knowledge needed to support positive literacy outcomes for all students, districts and schools need to provide educators with targeted professional development to “support teachers’ efforts to use research-validated interventions and instructional strategies.”⁸⁶ Similarly, in a 2011 article published in *Learning Disability Quarterly*, Dingle et al. comment that:⁸⁷

Many special education teachers are broadly prepared through generic K-12 programs or are insufficiently prepared in fast-track alternative routes to the classroom and, therefore, lack sufficient content knowledge to be able to teach reading to students with learning disabilities.

As limited literature focuses on the modes of professional development in improving literacy for students with special needs, the following subsections describe two literacy professional development models highlighted in recent academic literature: Literacy Learning Cohorts (LLC) and Literacy Collaborative (LC).

LITERACY LEARNING COHORTS (LLC)

The LLC model is based on the best practice that professional development should go beyond a single workshop and allow teachers to integrate new practices into the classroom. The professional development offerings were designed “to deepen special education teachers’ knowledge of how to teach reading using evidence-based strategies, specifically strategies for teaching word study.”⁸⁸ The LLC model involved “a 2-1/2-day institute, monthly follow-up meetings with groups of 4 to 6 teachers, an online community that included resources and a discussion forum, and monthly classroom observations for a 6-month

⁸⁵ For example, see: [1] Slavin et al., Op. cit., pp. 107–108. [2] Bell, S. “Professional Development for Specialist Teachers and Assessors of Students with Literacy Difficulties/Dyslexia: ‘to Learn How to Assess and Support Children with Dyslexia.’” *Journal of Research in Special Education Needs*, 2013. p. 104. <http://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=85189019&site=ehost-live>

⁸⁶ Connor et al., Op. cit., pp. 50–51.

⁸⁷ Quoted verbatim from: Dingle, M. et al. “Developing Effective Special Education Reading Teachers: The Influence of Professional Development, Context, and Individual Qualities.” *Learning Disability Quarterly*, 34:1, 2011. p. 90. Accessed via JSTOR.

⁸⁸ Brownell, M. et al. “Literacy Learning Cohorts: Content-Focused Approach to Improving Special Education Teachers’ Reading Instruction.” *Exceptional Children*, 82:2, 2016. p. 149.

period.”⁸⁹ Figure 2.5 describes the ongoing professional development portion of the LLC that features small-group and one-to-one coaching, as well as PLCs.

Figure 2.5: Literacy Learning Cohorts Ongoing Professional Development

Small-group coaching and PLCs.	<p>Following the PD institute, LLC teachers participated in six monthly cohort meetings designed to assist them in implementing newly learned content from the PD institute. These small group meetings (five or six teachers) were led by expert coaches.</p> <ul style="list-style-type: none"> ▪ The first was a half-day session that occurred approximately 2 weeks after the PD institute. Five subsequent 90-min meetings occurred after school during months 3 to 8.
One-to-One Coaching	<p>LLC teachers were observed by expert coaches after four monthly cohort meetings. These observations supported implementation of LLC strategies and provided teachers with individualized feedback. Six [of seven] coaches had or were earning doctoral degrees in reading or special education, and all had extensive experience in teaching, coaching, and reading intervention and research.</p> <ul style="list-style-type: none"> ▪ The coach for each cohort viewed four classroom observations for each teacher and met with teachers individually after each observation... Observations were video recorded, and teachers and coaches watched and reflected on video recordings using a rubric. ▪ Then teachers met with their coaches to discuss the lesson, agree on areas of instruction that needed further development, and plan next steps (approximately Months 2, 4, 6, and 8).

Source: *Exceptional Children*⁹⁰

SUPPORTING RESEARCH

In a 2016 study published in *Exceptional Children*, Brownell et al. used an experimental randomized block design to compare teachers who participated in the LLC model with those who received their districts’ typical professional development offerings. The study included 42 special education teachers and 170 students in Grades 3-5 in four districts across Florida, California, and Colorado. Ninety-five percent of special education teachers in the study were white and female.⁹¹ The authors found that “teachers who received the full LLC model demonstrated significant changes in the amount of instructional time and quality of word study instruction, and these changes were associated with improved student outcomes.”⁹²

LITERACY COLLABORATIVE (LC)

The LC is a “schoolwide reform model that relies primarily on the one-on-one coaching of teachers as a lever for improving student literacy learning.”⁹³ The LC was developed for teachers and students in Kindergarten through Grade 8 and requires a multi-year commitment from the school or district and the involvement of literacy coaches.⁹⁴ The LC has

⁸⁹ Dingle et al., *Op. cit.*, p. 88.

⁹⁰ Figure text quoted verbatim with minor changes from: Brownell et al., *Op. cit.*, pp. 149–150.

⁹¹ *Ibid.*, pp. 148–149.

⁹² *Ibid.*, p. 160.

⁹³ Biancarosa, Bryk, and Dexter, *Op. cit.*, p. 7.

⁹⁴ *Ibid.*, pp. 9–10.

two university training sites (one in Ohio and the other in Massachusetts) where schools send a designated literacy coach to attend “an intensive, graduate-level training program while also teaching children.”⁹⁵ After coaches receive their first year of training, they split their time providing instruction to students and offering professional development to their colleagues. In addition, coaches participate in a schoolwide leadership team that monitors the implementation and success of LC.⁹⁶

Figure 2.6: Literacy Collaborative Five-Year Whole-School Professional Development

YEAR	STEP	
Year 1	Training the literacy coach, building a leadership team	<ul style="list-style-type: none"> ▪ The literacy leadership team is responsible for guiding the implementation of Literacy Collaborative at their school. ▪ Multiple delivery methods. Literacy Coach training involves face to face as well as online learning at a participating university site. The rigors of the training prepare the coach to work effectively with children as well as adults in the school.
Years 2–4	Classroom implementation, professional development, and coaching	<ul style="list-style-type: none"> ▪ Regular PLCs. Through regular meetings and assignments, teachers learn about the language and literacy teaching framework, the rationales & theory behind it, and how to implement and refine their practices. ▪ Coaching. The literacy coach provides individual coaching for participating teachers as they learn to implement the framework across the training year.
Year 5	Ongoing professional development, program evaluation	<ul style="list-style-type: none"> ▪ Schoolwide literacy expertise. By year five, Literacy Collaborative should be fully implemented. Every teacher responsible for literacy instruction in the school has participated in the professional development sessions which includes ongoing coaching. ▪ Ongoing coaching and improvement. In subsequent years, teachers continue to collect and analyze student data and receive ongoing coaching and professional development to refine, and strengthen their practice.

Source: Literacy Collaborative⁹⁷

SUPPORTING RESEARCH

In their 2010 study, Biancarosa, Bryk, and Dexter examined the literacy achievement of over 8,500 students in Kindergarten through Grade 2 across 17 demographically diverse schools over four years. The authors used student achievement from the first year of the observation period as a baseline, as the literacy coaches received their training during that year and did not begin to conduct professional development at their respective schools until the following year.⁹⁸ Using a quasi-experiment design, the authors determined that, in comparison to student gains in literacy made during the baseline year, on average, students made 16 percent

⁹⁵ [1] Ibid., p. 9. [2] “Contact Us.” Literacy Collaborative. <http://www.literacycollaborative.org/contact/>

⁹⁶ Ibid.

⁹⁷ Figure text quoted verbatim from: “Our Model - Professional Development Model.” Literacy Collaborative. <http://www.literacycollaborative.org/model/>

⁹⁸ Biancarosa, Bryk, and Dexter, Op. cit., pp. 11–13.

larger learning gains in the second year, 28 percent larger learning gains in the third year, and 32 percent larger learning gains in the fourth year. In general, as implementation became more widespread, literacy gains grew larger.⁹⁹

⁹⁹ Ibid., p. 27.

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