

RESEARCH &
VALIDATION

TOPIC
PAPER

JULY 2024

Aligning Practice with Research:

Using Small Groups to Differentiate Instruction

By Sarah W. Siegal, Colby Hall, & Michael P. Mesa



SCHOLASTIC

CONTACT

This research report was prepared by Sarah W. Siegal, Colby Hall, and Michael P. Mesa. For more information about this topic paper, please contact Scholastic Research & Validation at ScholasticRV@scholastic.com or visit scholastic.com/research.

SUGGESTED CITATION

Scholastic Research & Validation. (2024). Aligning Practice with Research: Using Small Groups to Differentiate Instruction. Sarah W. Siegal, Colby Hall, & Michael P. Mesa. New York: Scholastic.

TM, ® & © 2024 Scholastic Inc. All rights reserved.

JUNE 2024

Aligning Practice with Research:

**Using Small Groups to
Differentiate Instruction**

By Sarah W. Siegal, Colby Hall, & Michael P. Mesa

TABLE OF CONTENTS

INTRODUCTION	1
WHAT IS SMALL-GROUP DIFFERENTIATED LITERACY INSTRUCTION?	2
RESEARCH ON SMALL-GROUP DIFFERENTIATED LITERACY INSTRUCTION	4
Components of Small-Group Instruction	5
SMALL-GROUP DIFFERENTIATED LITERACY INSTRUCTION IN PRACTICE	8
Using Assessment to Guide Instruction	8
Grouping Students to Differentiate Instruction	12
Homogeneous Groups	13
Heterogeneous Groups	13
Updating Groups Regularly	14
How Often Should Groups Be Changed?	15
Differentiation of Lesson Content	16
Providing Scaffolding and Feedback	23
Teacher Feedback	23
Teacher Scaffolding	23
Thinking Through Small-Group Structures and Routines	24
How Can Administrators Support Small-Group Differentiated Instruction?	26
CONCLUSION	28
REFERENCES	30

INTRODUCTION

Small-group instruction is ubiquitous in today's elementary school classrooms. In a recent survey completed by elementary teachers across the United States ($n = 101$), 90% of respondents indicated that they typically met with small groups of students three to five days a week (Ward et al., 2024). There are many reasons to group students during instruction. Maybe most obviously, small-group instruction can facilitate the goal of differentiation: Each student is unique in terms of the knowledge, skills, experiences, and interests they bring to the classroom; small-group instruction allows educators to be responsive to individual students' needs. When delivering instruction to small groups, teachers can customize instruction by adjusting the content of instruction, the method of instructional delivery (e.g., how explicitly content is presented), the amount of instructional scaffolding provided, and the frequency or intensity of instruction (Tomlinson, 2014). But is using small groups to differentiate instruction really supported by the research? After all, when teachers provide instruction to individual small groups, students participate in fewer minutes of teacher-managed learning overall (Shanahan, 2018, 2024). Does using small groups to differentiate instruction really translate to benefits for student learning? And what does research say about the details: What is the best way to use assessment data to inform small-group instruction? How should teachers group students, and how often should they update student groups? What are the best ways to adjust instructional intensity, content, and methods to meet student needs? What classroom routines best support effective small-group instruction?

The goal of this paper is to support educators and administrators looking to adopt or improve their approach to small-group literacy instruction, so they can align their practices with the current scientific evidence. We first define small-group instruction and provide a broad summary of the research on using small groups during literacy instruction in the elementary grades. Next, we identify and describe practices that support high-quality, small-group literacy instruction. To ensure that this paper translates research into actionable practices, we also provide specific advice for administrators on the role they can play in promoting effective small-group instruction. Throughout, we tie our guidance to practical examples to demonstrate how the components of evidence-based, differentiated small-group instruction can look when they come together in an elementary school classroom.

WHAT IS SMALL-GROUP DIFFERENTIATED LITERACY INSTRUCTION?

During small-group differentiated instruction, a teacher typically works with a select number of students to address learning needs, behavioral characteristics, or topics of interest they have in common. Sometimes, a teacher will work with a subset of students with heterogeneous learning needs, motivational characteristics, or topics of interest with the goal of giving some students the opportunity to be models or teachers and other students opportunities to learn—but with the goal of differentiating instruction to stretch and maximize growth for all students. It is important to note that small-group instruction facilitates both productive learning experiences and time to practice skills for all students in the classroom, not just those meeting directly with the teacher in a small group. As a result, when we describe recommendations for small-group instruction, we focus not only on the instructional time when students are working directly with the teacher but also on considerations that allow students to make effective use of their time when they are working more independently.

There are reasons to group students during instruction that do not serve the purpose of differentiation. For example, dividing students into peer-led small groups can facilitate increased independence for students who are practicing a set of newly learned skills (e.g., in Collaborative Strategic Reading groups; Boardman et al., 2016) but does not necessarily involve differentiation of instruction. Alternatively, a teacher might pull a small group for the purpose of demonstrating something that can only be demonstrated up close (e.g., place and manner of articulating phonemes) or to ensure that students are paying close attention and experiencing more opportunities to respond and more accountability for engaging with learning and practice (Shanahan, 2018). In this paper, we do not seek to describe all the reasons to group students during instruction. **Instead, we focus on grouping to differentiate instruction.** In addition, although supplemental instruction (e.g., Tier 2 or Tier 3 intervention) for students with learning difficulties is often provided in a small-group format (see Table 1), there is substantial evidence supporting the use of small groups to differentiate instruction in the general education classroom (i.e., during Tier 1 instruction) as well (Conradi Smith et al., 2022; Puzio et al., 2020; Connor et al., 2013).

Table 1**Using Small Groups — Not just for intervention?**

A multitiered system of supports (MTSS) is a responsive instructional framework. The aim of a MTSS approach is to prevent the emergence of difficulties by using assessment data to inform the provision of scaffolds of various intensities, so that the needs of all students are met equitably—and early. Depending on their initial performance and progress over time, students may receive only Tier 1 instruction (i.e., only core instruction in the general education classroom), or they may receive both Tier 1 instruction and Tier 2 instruction (i.e., core instruction + supplemental instruction that provides additional opportunities to learn and practice). If students are not making adequate progress receiving only Tier 1 + Tier 2 instruction, they may be provided with Tier 3 supports as part of the MTSS framework. More information about the tiers within a MTSS is provided below. It is important to remember that effective instructional practices are effective for most/all students, not just those who are struggling. The tiers of a MTSS indicate an increase in instructional time and intensity but not necessarily change in underlying pedagogical practices.

Working in small groups is common within MTSS frameworks, because small-group instruction enables teachers to provide focused instruction to support the development of specific types of knowledge or skill (Denton et al., 2014). Below, we describe the role small groups play within each tier.

Tier 1 — Universal Support (100% of students)	All students should receive Tier 1 instruction that includes high-quality teaching practices. Differentiation using small groups should be considered one of those best practices and serves as a method for addressing the various needs students bring to the general education classroom literacy block.
Tier 2 — Supplemental Support (10–15% of students)	Some students will require additional instruction beyond Tier 1. In Tier 2, instructional content and teaching practices may be identical to what students received in Tier 1, but the time will be extended. This allows students to spend more time on specific topics or skills as needed. Because only a subset of students typically needs this extended learning time, small groups provide an ideal structure for Tier 2 supplemental support. Schools or districts often have a block of “intervention time” that can be used to deliver Tier 2 instruction.
Tier 3 — Intensive Support (3–5% of students)	A small subset of students who receive Tier 1 and 2 instruction may still not make adequate progress to achieving grade-level standards. If this occurs, students may require additional time and specialized supports. If multiple students have similar needs, small groups can provide the structure for Tier 3 support.

RESEARCH ON SMALL-GROUP DIFFERENTIATED LITERACY INSTRUCTION

Research generally finds that small-group instruction is associated with increased learning. Steenbergen-Hu et al. (2016) systematically analyzed 13 previous reviews of research on this topic and found that grouping students in K–12 based on their academic needs was associated with improved performance ($ES = .25$). One of the reviews included by Steenbergen-Hu et al. reported effects on reading outcomes in particular: Lou et al. (1996) found that within-class grouping for reading instruction was associated with more learning than no grouping ($ES = .13$).

It may also be useful to review the results of a couple of individual studies that suggest benefits of small-group, differentiated literacy instruction in Tier 1 classrooms. Connor et al. (2006) observed instruction in 34 preschool classrooms and found that learning was 10 times greater for preschoolers who were engaged in small-group code-focused instruction than for preschoolers who were engaged in whole-class code-focused instruction. Al Otaiba et al. (2011) randomized 44 kindergarten teachers to receive either (a) extensive professional development, coaching, and software that focused on delivery of differentiated small-group instruction (the “treatment” condition) or (b) minimal professional development, such that they mostly continued delivering their “business-as-usual” instruction (the “comparison” condition). During the study, both groups of teachers were observed using small-group instruction, but the quality of small-group instruction differed: in the comparison group, each small group received the same instruction; in the treatment group, there was clear evidence of differentiation of instruction (i.e., each small group received something different). Al Otaiba and colleagues reported that students in treatment classrooms (i.e., those who received differentiated small-group instruction) outperformed their peers in the comparison classrooms on end-of-year reading measures. In addition to impacting reading outcomes, grouping students to differentiate instruction has been shown to positively impact student engagement (Connor & Morrison, 2016) and student attitudes about learning (Kulik & Kulik, 1992; Lou et al., 1996).

It is worth noting that there can be downsides to providing instruction in small groups as well. The main trade-off to consider relates to the amount of teacher-led instruction students have access to overall: a whole-group lesson can be delivered to all students at the same time, whereas a small-group lesson of the same length only reaches a small proportion of the class. This is why it is important to find the right balance between whole-class and small-group instruction, and to use small-group instructional time intentionally (e.g., to provide opportunities for independent, collaborative practice of new knowledge or skills, for demonstrations that will be more effective up close, or for differentiation—to customize instruction such that it can meet diverse needs that cannot be met during a whole-class lesson).

COMPONENTS OF SMALL-GROUP INSTRUCTION

As part of her larger body of work focused on understanding how different students learn best within the same classroom, Dr. Carol Connor has been a key contributor to knowledge about small-group instruction and its impact on student outcomes. Connor and her colleagues identified four dimensions of instruction that, when provided in the appropriate, student-customized combination, maximize student growth in literacy (Connor et al., 2009a). **Code-focused (CF) instruction** is designed to teach children how to “crack the code” of printed words and addresses phonological awareness, grapheme-phoneme correspondence, phonics knowledge (i.e., the sounds corresponding to letters or letter combinations), decoding, and irregular word reading. **Meaning-focused (MF) instruction** supports students’ efforts to extract and construct meaning while reading connected text (Snow, 2002) and includes vocabulary knowledge, morpheme awareness, knowledge of print and text concepts, syntactic knowledge, and verbal reasoning (e.g., inference generation). The knowledge and skills addressed during code-focused and meaning-focused instruction are robust predictors of skilled reading (Duke & Cartwright, 2021; Gough & Tunmer, 1986; Scarborough, 2001). However, different children need them in different doses (i.e., some children benefit from a greater focus on code-focused knowledge and skills, and others benefit from a greater focus on meaning). Connor and her colleagues found that the impact of instruction was maximized when the content of instruction (i.e., the degree to which it was focused on cracking the code or constructing meaning) was customized to meet student needs (Al Otaiba et al., 2011; Connor et al., 2013; Connor et al., 2006).

Connor and her colleagues also found that different students benefited from different amounts of **teacher-managed (TM) instruction** (i.e., instruction structured and driven by the teacher, such that the teacher is continuously present with students) and **child-managed (CM) instruction** (i.e., instruction during which students engage in group or independent work that is not directly guided by an adult; the teacher may occasionally check in and monitor work from afar, but they are not continuously present with students). While the magnitude varied by grade and time in the school year, Connor found that, in general, students with more knowledge or skill in a particular area benefit from more child-managed instruction, while students with less knowledge or skill in an area benefit from more teacher-managed instruction (Connor, 2011; Connor et al., 2011b). By observing and recording instruction in classrooms across diverse schools and districts, Dr. Connor generated a few important conclusions about small-group differentiated literacy instruction:

1. Different students benefit from more or less time receiving code-focused and meaning-focused instruction (Connor et al., 2007). Small-group instructional planning should focus on each group's needs; some groups may need more instructional time than others, and instruction should not look the same for all groups.
2. It is possible for students who have at-grade-level or above-grade-level word reading skills to get too much code-focused instruction. In fact, "children with stronger skills generally show weaker reading gains the more time they spend in teacher-managed, code-focused activities" (Connor, 2011a), and more instruction in general does not consistently predict better student outcomes (Connor et al., 2011a; Connor et al., 2009b). These findings illustrate the value of using small groups to regulate not just the lesson content students receive, but also the time they spend on a particular topic. If students have already mastered a phonics skill or have not reached a level of skill or knowledge that will allow them to access the material, the precious time dedicated to this mismatched code-focused instruction will be underutilized. Unlike code-focused instruction, teacher-managed instruction on vocabulary, comprehension, language, or reading for understanding typically benefits all students and thus may be a better use of whole-class time (Connor et al., 2004).

3. Students can benefit from time receiving direct instruction (in whole and small groups), but they can also benefit from time practicing new skills and working with peers in child-managed instructional contexts. Research shows that, when students have the language skills required to access an activity, spending time on meaning-focused activities with peers or independently leads to greater growth than only practicing with adult support (Connor et al., 2009b; Connor et al., 2011b; Connor et al., 2013). The benefits of child-managed instruction tend to increase as a school year progresses. Small groups provide an excellent opportunity for most of a class to take part in child-managed work while one small group works with the teacher.

SMALL-GROUP DIFFERENTIATED LITERACY INSTRUCTION IN PRACTICE

In the remaining sections of this paper, we integrate summaries of research evidence into guidance about practical considerations when designing small-group differentiated literacy instruction. We identify key considerations for small-group instruction, including (a) using assessment to guide instruction, (b) grouping students and incorporating flexibility into grouping, (c) differentiating lesson content, (d) providing scaffolding and feedback during small-group instruction, and (e) thinking through small-group instruction structures and routines.

USING ASSESSMENT TO GUIDE INSTRUCTION

Research shows that small-group instruction is more effective when data helps inform lesson content (i.e., to develop lessons that build on students' shared strengths and/or address areas of weakness), the composition of student groups, and adjustments to instruction based on students' instructional response or progress over time (Schildkamp et al., 2013). Instruction guided by assessments has been shown to raise the quality of instruction and improve student outcomes (Al Otaida et al., 2014; Connor et al., 2013; Graue et al., 2017; Gatlin-Nash et al., 2021; Peterson et al., 2016). At the same time, assessment is an expensive endeavor, not only in terms of the costs associated with purchasing tests and collecting data, but also when considering instructional time lost (Barrett et al., 2023). Time devoted to assessment reduces the amount of time for instruction. In addition, administering and scoring assessments impacts the time teachers have available to plan for and deliver instruction (Barrett et al., 2023). Therefore, to ensure that assessment has a net positive impact on student learning, it is important to make assessments "count," by considering: 1) the domains of literacy that should be measured, 2) the best ways to measure student knowledge/skill within each domain, and 3) other factors that can help maximize the benefits of assessment.

When determining what data will be most useful to identify student needs and form small groups, we propose a slightly expanded version of recommendations presented by Conradi Smith and coauthors (2022) that focus on assessing decoding, fluency, and comprehension. By adding oral language and/or vocabulary to the list, we can better assess the students' needs when it comes to meaning-focused domains. Ideally, teachers should regularly collect data about students' performance in at least one code-focused domain (e.g., phonics/decoding or passage-reading fluency) and one meaning-focused domain (e.g., vocabulary, comprehension; Hamilton et al., 2009). See Table 2 for more information about each reading domain within which teachers can assess students.

Table 2

Domain	Instruction Type	Most Relevant Grade(s)	Benefits	Challenges
Phonics/ Decoding	Code- focused	K to Grade 3 and older students with code-focused difficulties	Phonics/decoding involves a relatively constrained set of skills that can be measured using informal or teacher-created inventories. There is also a clear spectrum of complexity (for example, moving from knowledge of individual letter-sound correspondences to reading multisyllabic words).	Evaluating phonics knowledge can get very granular. It can be difficult to determine when a general sense for students' phonics ability is sufficient, or if it is important to know exactly what grapheme-phoneme correspondences they have mastered or which ones they have yet to learn. Also, there may be disconnects between the order in which students have acquired phonics knowledge and a curriculum's sequence of phonics instruction that can make it difficult to put decoding assessment data into action when it comes to forming groups and determining lesson content.

Table 2 (cont.)

Domain	Instruction Type	Most Relevant Grade(s)	Benefits	Challenges
Oral Language	Meaning-focused	K+	Oral language (including vocabulary knowledge and language comprehension) plays a critical role in reading development (Hogan et al., 2014). For many students, listening comprehension outpaces reading comprehension in the early grades, while decoding automaticity is still developing. Oral language data is helpful in identifying specific subsets of students who are fluent speakers but may not fully understand content when they read. Informal checks for understanding (written or verbal responses to listening) can be a way to gain insight within this area.	Language and vocabulary skills grow through life experiences as well as through exposure to direct instruction. Student growth and proficiency in oral language are typically not as closely tied to classroom instruction as code-focused skills (Anderson & Nagy, 1993).
Fluency	Code-focused	Grades 1+	Fluency is relatively easy to measure and serves as a good proxy for overall reading ability. In one study, fluency was found to account for approximately 50% of the variance in students' reading comprehension for adolescent students with reading difficulties (Paige, 2011).	Students with low fluency scores may have difficulties for many reasons (e.g., fluency is impacted by language comprehension or decoding accuracy and automaticity). Further assessment may be needed to pinpoint strengths or weaknesses for guiding differentiation.
Reading Comprehension	Meaning-focused	Grades 2+ (or students reading connected text fluently)	Comprehension is the ultimate goal of reading instruction. When measured in a reliable way, reading comprehension data can be an extremely useful starting point to help teachers understand how well a student is reading. Informal checks (written or verbal responses to reading) can be useful for tracking student understanding and engagement.	Reading comprehension is complex and can be impacted by many factors, including the reader, the text itself, and the purpose for reading (Snow, 2002). Like fluency difficulties, reading comprehension difficulties arise from different causes. Because of this, further assessment may be necessary to pinpoint the cause (or causes) of students' comprehension difficulties.

There are a few key factors to consider when using assessment data to guide instruction. First, for students at or above grade level who are continuing to make progress, informal assessment may be adequate for determining appropriate ways to differentiate instruction. In contrast, it may be necessary to administer multiple assessments to accurately determine the source of students' trouble when they have difficulties (Jones, et al., 2016). For example, although passage-reading fluency assessments primarily reflect code-focused knowledge and skills, they can be impacted by meaning-focused knowledge. Students' prosody (e.g., intonation, stress, phrasing) while reading depends on their understanding of the text and vocabulary knowledge; both can also impact the speed with which students recognize and pronounce individual words.

A panel of expert researchers recommended using multiple data sources, including teacher observation, when making decisions about instructional differentiation; they advised against using just one data point measured at one moment in time (Hamilton et al., 2009). For example, it may be difficult for a teacher to plan differentiated small-group lessons with only screening data related to students' receptive vocabulary abilities. However, if additional information from student writing samples (i.e., work that indicates expressive vocabulary abilities) is also available, then both data points can be used to determine students' instructional needs. A student may score below grade level on a general vocabulary assessment but excel in a unit about the ocean due to background knowledge and personal interest in that topic. Distinctions like this can be used to more precisely inform differentiation.

Using quantitative data (and receiving training on how to use it effectively) is important because it helps reduce bias. Research has shown that teacher intuition and informal assessments alone do not always accurately capture a student's academic competence (Eckert & Arbolino, 2005; Timmermans et al., 2016). In one specific example, two groups of teachers rated student ability in math and literacy. The teachers in the treatment group were provided with data and professional development (PD) that addressed how to use assessment to guide instruction, and the control-group teachers received data and PD with a focus only on the implementation of an instructional program (i.e., without a focus on data-driven differentiation). The results revealed that, even with access to student data, the control teachers tended to underestimate the academic competence of students with lower socioeconomic status, especially those enrolled in more affluent schools (Gatlin-Nash et al., 2021). This example illustrates how important it is for teachers to have access to data and receive training on how to use the data to inform instruction. When good data, collected using multiple methods and timepoints, is paired with training, teachers can form a more complete picture of student strengths and needs for instruction planning and differentiation.

GROUPING STUDENTS TO DIFFERENTIATE INSTRUCTION

Once teachers have used assessment data to identify areas of need, they can purposefully create (a) small groups of students with similar levels of knowledge and skill (homogeneous groups) to provide instruction that targets their shared areas of need, or (b) small groups of students with differing levels of knowledge and skill (heterogeneous groups) to provide instruction that stretches students with stronger skills to be models or peer tutors and supports students with less skill to be learners. Although this section focuses on grouping students according to similar or divergent levels of knowledge or skill in a literacy domain, teachers can purposefully create homogeneous small groups based on various factors, including student interests, background knowledge, behavioral needs, and motivational levels.

Homogeneous Groups

Homogeneous small-group structures are a common approach to differentiating instruction in elementary schools in the United States (Graham et al., 2020). As noted previously, skill-based homogeneous grouping is related to positive academic outcomes regardless of students' ability levels (Steenbergen-Hu et al., 2016). This approach is valuable when the teacher's goal is to deliver targeted instructional support to students with similar skills in need of further development (Bondie et al., 2019; Hall & Burns, 2018). The similarity or more narrow range in students' skill levels within skill-based homogeneous small groups allows teachers to differentiate instruction in a way that better meets students' needs.

There are potential disadvantages to skill-based homogeneous grouping that teachers should be aware of. One concern is that teachers may lower their expectations for groups of students who have less proficiency in each area. Additionally, the use of skill-based homogeneous small groups may deny opportunities for lower-achieving students to interact with and learn from higher-achieving peers (Boaler et al., 2000). Finally, students may identify and internalize the labels associated with their skill-based homogeneous small groups, leading to perceptions such as "those are the good readers and we are the struggling readers" (Park & Datnow, 2017). Regularly regrouping students based on varying characteristics, including skill proficiency, can be a potential solution to these problems.

Heterogeneous Groups

Teachers may opt to use heterogeneous or mixed-ability small groups if their goal is to (a) stretch students with higher levels of knowledge or skill to work on articulating or modeling their thought processes (and to use metacognition to identify what they are doing in a way that allows them to teach and model for others) and (b) scaffold learning for students with lower levels of knowledge or skill by providing access to a peer who can serve as an expert model (Wilkinson & Fung, 2002). All learners can further develop competency in a skill by observing and interacting with individuals with strong competency (i.e., from observing and imitating expert models). Student modeling may offer an advantage over teacher-led demonstrations: peers often share learning experiences, ways of using language, and cultural knowledge; as a result, peer models may be able to describe and model a skill in a way that makes more sense to their less-expert peers than if a teacher had described or modeled the same skill (Schunk & Zimmerman, 2007; Völlinger et al., 2023). Heterogeneous grouping has the collateral benefit of fostering interaction and collaboration among diverse groups of classmates.

There are many ways to heterogeneously group students. For example, after gathering formal and informal data on the students' abilities to read fluently, a teacher may divide the class into three groups based on their performance (e.g., eight students in a low-skill group, eight in a moderate-skill group, and eight in a high-skill group) and rank order them within each group. Next, the teacher may create heterogeneous small groups of three students by selecting the students at the same rank within each of the skill groups. Alternatively, the teacher may strategically select which students are grouped together based on his or her observations of the students and knowledge of their other strengths and weaknesses, including social and behavioral considerations. Then, in their assigned small groups, students may complete a reading fluency activity in which each student is assigned a certain role (e.g., the student from the high-skill group could be designated to model fluent reading while the other two students follow along; the student in the moderate-skill group could practice reading the same passage next; and the student in the low-skill group could be the last to practice, after twice reading along while their peers demonstrate fluent reading). Higher-skill students could provide feedback to peers that stretches them to think metacognitively about the way they accomplish fluent reading (e.g., about how reading with prosody involves varying intonation, stress, and tempo based on the meaning of the text).

Updating Groups Regularly

Researchers recommend that teachers regularly update small-group composition to adapt to their students' evolving needs as they respond to effective instruction (Castle et al., 2005; Watts-Taffe et al., 2012). Teachers may choose to change small groups for many reasons, including because progress-monitoring assessments indicate mastery of content by certain students (who may benefit from engaging with more challenging material in a different small group). In certain instances, progress-monitoring data may indicate the need to reduce group size for more intensive instruction. When individual students demonstrate specific challenges not experienced by their classmates or require higher-intensity interventions, transitioning to a smaller group or even 1:1 instruction can be a strategic response.

Regularly updating small groups not only enables teachers to address the unique needs of each learner more effectively, but also fosters a more inclusive and collaborative learning environment, promoting broader social interaction and sense of community among students and providing students with opportunities to experience diverse group dynamics and challenges (Wilkinson & Fung, 2002). When small groups are updated regularly, there is less risk that ability labels will become entrenched (McGillicuddy & Devine, 2020) and that students will perceive their ability as something fixed, such that it is not possible to grow and improve. This is important, because when students have negative perceptions of their abilities, they are likely to experience academic difficulties, including with the development of reading skills (Best et al., 2011; Morgan & Fuchs, 2007). At the same time, some evidence suggests that the quality of teachers' instruction may be more influential on students' perceptions of their own ability than teachers' grouping practices (Yu et al., 2022).

How Often Should Groups Be Changed?

Unfortunately, there is not a precise answer to how often groups should be changed. Striking a balance between stability and flexibility is key. Teachers should be responsive to student performance data, updating small groups when students show insufficient progress or when there are other potential benefits to making a change (e.g., students in the existing group do not work well together, Lewis & Batts, 2005). The exact time frame may vary based on a teacher's progress-monitoring schedule or other organizational considerations (e.g., breaks in the school schedule). Too-frequent changes, however, should be avoided. They may create disruptions in students' learning. The optimal frequency may vary depending on factors such as the grade of the students (e.g., younger students may need to be regrouped more frequently as they are learning new skills for the first time), the nature of the content being addressed (e.g., discrete skills, such as letter-sound correspondences, may take less time to learn for some students), and the overall goals of instruction (e.g., mastery of one skill versus mastery of a set of skills).

DIFFERENTIATION OF LESSON CONTENT

In the figures below, we provide example small-group lesson plans that differentiate instruction for students in primary-grade (Figure 1) and upper-elementary grade (Figure 2) classrooms. In the first set of examples, all kindergarteners receive primarily code-focused instruction, but the teacher differentiates the content and intensity of instruction students receive. To group students for these kindergarten, code-focused small-group lessons, the teacher would first administer a curriculum-aligned placement test or a phonics inventory to determine what letter-sound knowledge they have and where to place them in the sequence of instruction. Some kindergarten students may have no letter-sound knowledge in the fall of kindergarten. These students will be placed at the start of the sequence of instruction. For example, if the teacher is using Scholastic's Ready4Reading Short Reads Decodables book series, they would start with *Sam and Tam* and the letter-sound cards that introduce the short-vowel sound for a and the sounds associated with the consonants m, s, and t in common consonant-vowel-consonant words. (This is the only letter-sound knowledge students need to read *Sam and Tam*.) Other kindergarten students may already know the short-vowel sound associated with a and all of the consonant sounds introduced in the first seven decodables in the series but still lack knowledge of the short-vowel sound associated with i. Such students would be grouped together and placed in the sequence of instruction at the lesson that introduces the short-vowel sound for i and scaffolds reading of the decodable *Rip! Dip! and Pat!*.

Students with lower levels of knowledge may need more support and opportunities for practice than students who start kindergarten with more letter-sound knowledge. The "Code-Focused Lesson 1" is designed to provide a little extra practice for students with initially low levels of phonics/decoding knowledge. Students who receive "Code-Focused Lesson 1" learn new letter-sounds and temporarily irregular words, practice decoding words using new letter-sound knowledge, and read a decodable book. Then, in "Code-Focused Lesson 2," these same groups with initially lower levels of phonics/decoding knowledge have an opportunity to read the same book again, this time focusing on comprehension as well as decoding. For students with higher initial levels of phonics/decoding knowledge (e.g., the group that started with *Rip! Dip! and Pat!*), it's okay to skip "Code-Focused Lesson 1" and go straight to "Code-Focused Lesson 2." Teachers can usually expect more advanced students to pick up on new letter-sound knowledge more quickly; such students will likely be able to focus on comprehension as well as decoding even on the first read. When groups that need more teacher support are engaged in the second small-group lesson for this decodable, groups of students with strengths in this area can engage in child-managed instructional activities, which are associated with greater benefits for students who are initially more proficient (Connor, 2011b).

As we also underlined in the “Grouping Students to Differentiate Instruction” section above, it’s important to anticipate that students will move between groups as the school year progresses. The initial groups you assign students to are not rigid arrangements that remain the same from fall to spring. Especially in kindergarten, there is a need for flexible grouping approaches. Some students will begin the year having had little exposure to instruction or informal play focused on letter names and sounds, but they will learn quickly. Others will begin the year having had ample exposure to instruction in letter names and sounds but have more difficulty retaining and organizing new learning in this area. Informal (e.g., content-aligned assessments integrated into a lesson) or formal progress-monitoring data can inform teachers’ decisions to move students to new groups.

Figure 1a.

KINDERGARTEN CODE-FOCUSED LESSON 1

Before the Lesson:

- Use data to choose an appropriate decodable book.
- Identify letter sounds and irregular words students need to know to read the book.
- Create or select existing flashcards to teach the letter-sounds and irregular words that students do not already know or may need to review.
- Choose three decodable words from the book and write them on a whiteboard or piece of paper.

Lesson Materials: letter-sound cards, list of decodable words, irregular word cards, and decodable books

Phonics (2 minutes)

Show one letter-sound card. Tell students the name and sound of the letter. Ask students the sound of the letter. Repeat until all letter-sounds have been taught. Mix all letter-sound cards together, then show one card and ask for the sound. Repeat until students have read each sound one or two times.

Decoding (5 minutes)

Show students the list of three decodable words from the book. Model sounding out the first word by pointing to each letter and saying its sound, then sliding your finger under the word and reading the whole word. Instruct the students to sound out and read the first word with you. Instruct the students to sound out and read the first word without you. For the next two words, have students sound out and read each word without you. Provide corrective feedback and scaffold by modeling when appropriate.

Irregular Words (3 minutes)

Show one irregular word card. Tell students the word. (Note: You can point out any letter sounds in the word that your students already know.) Ask students the word. Repeat until all irregular words have been taught. Mix all irregular word cards together, then show one card and ask for the word. Repeat until students have read each word one or two times.

Book Reading (10 minutes)

Give each student a book. Tell students the name of the book. Instruct students to point to each word as they read it. Monitor and provide support as students read each page.

Figure 1a.

KINDERGARTEN CODE-FOCUSED LESSON 2

Note: This lesson is designed for all students. Students who began with Lesson 1 will receive additional practice. Students with higher initial levels of phonics/decoding knowledge will encounter these activities for the first time.

Before the Lesson:

- Use assessment data to choose a decodable book (for students who receive Lesson 1 first, the book will be the same book that they read during Lesson 1).
- Identify letter sounds and irregular words students need to know to read the book.
- Create or select existing flashcards to teach the letter-sounds and irregular words that students do not already know or may need to review.
- Choose three decodable words from the book and write them on a whiteboard or piece of paper.

Lesson Materials: letter-sound cards, list of decodable words, irregular word cards, and decodable books

Phonics (2 minutes)

Show one letter-sound card. Tell students the name and sound of the letter. Ask students the sound of the letter. Repeat until all letter-sounds have been taught. Mix all letter-sound cards together, then show one card and ask for the sound. Repeat until students have read each sound one or two times.

Decoding (3 minutes)

Show students the list of three decodable words from the book. For each word, instruct students to say each letter sound as you point, then read the whole word as you slide your finger under the word.

Note: This decoding activity differs from the activity in Lesson 1 in that it does not include teacher modeling or student reading with the teacher. That said, if students make errors and need the teacher to step back and provide modeling and teacher-guided practice, that is fine/encouraged!

Irregular Words (2 minutes)

Show one irregular word card. Tell students the word (Note: You can point out any letter sounds in the word that your students already know). Ask students the word. Repeat until all irregular words have been taught. Mix all irregular word cards together, then show one card and ask for the word. Repeat until students have read each word one or two times.

Book Reading (13 minutes)

Give each student a book. Tell students the name of the book. Provide students with a comprehension purpose question.* Instruct students to point to each word as they read it. Monitor and provide support as students read each page. After reading, engage students in a discussion about the comprehension purpose question.

Note: This book reading activity differs from the activity in Lesson 1 in that students are asked a comprehension purpose question before reading and discuss the question after reading.

*See Figure 3 for more information about formulating a good comprehension purpose question.

In the next set of example small-group differentiated lesson plans, upper-elementary-grade students receive instruction that is differentiated based on the degree to which students need support with code-focused or meaning-focused knowledge and skills. Lesson 1.1 is designed to provide a little extra practice for students with initially low levels of phonics/decoding knowledge but adequate levels of meaning-focused knowledge. Lesson 1.2 is designed to provide a little extra practice for students with initially low levels of meaning-focused knowledge but adequate levels of phonics/decoding knowledge. Lesson 1.3 is designed to provide support for students who have difficulties in both meaning-focused and code-focused domains. Lesson 2 is designed for all students. In this way, students who may have difficulty reading grade-level texts without additional support receive the extra preparation they need to engage with grade-level texts. Students who have high levels of both meaning-focused knowledge

and decoding knowledge/skill only receive one lesson (Lesson 2); after they participate in the first lesson, they can engage in child-managed instruction, perhaps reading and discussing or writing about new texts that enrich their understanding of the topics covered in the first text. A teacher may want to provide Lesson 2 as a whole-class lesson. In this case, the teacher might meet with small groups of students who have high levels of both meaning-focused knowledge and decoding knowledge/skill to discuss higher-level literary analysis of the text read as a whole class.

Figure 2a.

UPPER-ELEMENTARY LESSON 1.1

Before the Lesson:

- Choose a grade-level text.
- Check the text for multisyllable words and create a list of two or three multisyllable words that students may need support to read.

Lesson Materials: list of multisyllable words and grade-level texts

Decoding Multisyllable Words (5 minutes)

Show list of multisyllable words. Instruct students to use the strategies they have been taught to use to read multisyllable words during whole-class instruction. For example, they might first identify any affixes or graphemes that stand out as “parts they know.” Second, they might identify the vowel graphemes in the word, knowing that each syllable contains a vowel sound. Next, they might read the first part of the word. Then, they would read the second part (etc.). Last, they put the parts together and “make it sound like a real word.” Repeat until students have read each word one or two times.

Book Reading (10 minutes)

Give each student a copy of the text. Instruct students to read each page chorally or with individual students reading aloud and others following along silently (perhaps sliding a finger under each line to show they are following along). One good way to have students build fluency is to have them take turns reading in pairs, with the teacher listening in to provide support (e.g., a group of four would include two pairs). If students need more support, the teacher can model reading a section of text fluently and students can “echo-read” it after the teacher finishes. Scaffold students’ reading and, if there is time, encourage them to reread to build fluency.

Figure 2b.

UPPER-ELEMENTARY LESSON 1.2

Before the Lesson:

- Choose a grade-level text.
- Check the text for vocabulary words and create flashcards for two or three vocabulary words that students do not know or may need to review. The best words to choose are those for which lack of knowledge would impede comprehension of the text.

Lesson Materials: vocabulary cards and grade-level texts

Vocabulary (5 minutes)

Show one vocabulary card. Pronounce the word and prompt students to repeat the word after you. Provide students with a student-friendly definition of the word and an example sentence that uses the word. Ask questions and prompt students to respond in complete sentences using the target word. Repeat until all vocabulary words have been taught.

Book Reading (10 minutes)

Give each student a copy of the text. Instruct students to read each page chorally or with individual students reading aloud and others following along silently (perhaps sliding a finger under each line to show they are following along). One good way to have students build fluency is to have them take turns reading in pairs, with the teacher listening in to provide support (e.g., a group of four would include two pairs). If students need more support, the teacher can model reading a section of text fluently and students can “echo-read” it after the teacher finishes. Scaffold students’ reading and, if there is time, encourage them to reread to build fluency.

Figure 2c.

UPPER-ELEMENTARY LESSON 1.3

Before the Lesson:

- Choose a grade-level text.
- Check the text for multisyllable words and create a list of two or three multisyllable words that students may need support to read.
- Check the text for vocabulary words and create flashcards for two or three vocabulary words that students do not know or may need to review.

Lesson Materials: list of multisyllable words, vocabulary cards, and grade-level texts

Decoding Multisyllable Words (5 minutes)

Show list of multisyllable words. Instruct students to use the strategies they have been taught to use to read multisyllable words during whole-class instruction. For example, they might first identify any affixes or graphemes that stand out as “parts they know.” Second, they might identify the vowel graphemes in the word. Next, they might read the first part of the word. Then, they would read the second part (etc.). Last, they put the parts together and “make it sound like a real word.” Repeat until students have read each word one or two times.

Vocabulary (5 minutes)

Show one vocabulary card. Pronounce the word and prompt students to repeat the word after you. Provide students with a student-friendly definition of the word and an example sentence that uses the word. Ask questions and prompt students to respond in complete sentences using the target word. Repeat until all vocabulary words have been taught.

Book Reading (10 minutes)

Give each student a copy of the text. Instruct students to read each page chorally or with individual students reading aloud and others following along silently (perhaps sliding a finger under each line to show they are following along). One good way to have students build fluency is to have them take turns reading in pairs, with the teacher listening in to provide support (e.g., a group of four would include two pairs). If students need more support, the teacher can model reading a section of text fluently and students can “echo-read” it after the teacher finishes. Scaffold students’ reading and, if there is time, encourage them to reread to build fluency.

Figure 2d.

UPPER-ELEMENTARY LESSON 2

Note: This lesson is designed for all students. Students who began with Lesson 1 will receive additional practice. Students with higher initial levels of knowledge will encounter these activities for the first time.

Before the Lesson:

- Choose a grade-level text.
- Check the text for vocabulary words and create flashcards for two or three vocabulary words that students do not know or may need to review.

Lesson Materials: vocabulary cards and grade-level texts

Vocabulary (3 minutes)

Show one vocabulary card. Pronounce the word and prompt students to repeat the word after you. Provide students with a student-friendly definition of the word and an example sentence that uses the word. Ask questions and prompt students to respond in complete sentences using the target word. Repeat until all vocabulary words have been reviewed.

Book Reading (15 minutes)

Give each student a copy of the text. Provide students with a comprehension purpose question*. Instruct students to read each page chorally or with individual students reading aloud and others following along silently (perhaps sliding a finger under each line to show they are following along). One good way to have students build fluency is to have them take turns reading in pairs, with the teacher listening in to provide support (e.g., a group of four would include two pairs). If students need more support, the teacher can model reading a section of text fluently and students can “echo-read” it after the teacher finishes. Scaffold students’ reading and, if there is time, encourage them to reread to build fluency. After reading, engage students in a discussion about the comprehension purpose question.

*See Figure 3 for more information about formulating a good comprehension purpose question.

Figure 3. What makes a good comprehension purpose question?

The purpose of a comprehension question is to focus the students’ thinking about the text. For example, before reading a text about earthquakes near the Mount St. Helens volcano, the teacher might say, “As you read, I want you to think about this question: ‘Are earthquakes a reliable indicator of an upcoming volcanic eruption?’ (or ‘Should we be worried when there are little earthquakes under a volcano? Are they a sure sign that it’s going to erupt?’) As you read, make sure to collect evidence you can use to support your answer.” Teachers should revisit the comprehension questions during and/or after instruction. As part of the comprehension discussion, teachers should also encourage student-talk and elaboration by asking “why” or other follow-up questions (Shanahan, et al., 2010).

What makes a good comprehension purpose question?

- It’s short!
- It doesn’t overburden working memory.
- It isn’t too detail-oriented.
- It can be answered using text evidence.

PROVIDING SCAFFOLDING AND FEEDBACK

Some students may need minimal support to complete an activity; others may benefit from additional scaffolding or feedback. Another way that educators can differentiate small-group instruction is by fine-tuning the level of scaffolding and types of feedback they provide based on the instructional needs of each student or group.

Teacher Feedback

Teacher feedback during small-group instruction may consist of verbal or nonverbal messages regarding students' performance or understanding. Evidence suggests that teacher feedback supports student learning, and the most effective feedback is explicit, timely, and consistent (Hattie & Timperley, 2007; Oakes et al., 2018; Wisniewski et al., 2020). Explicit feedback goes beyond general remarks about performance (e.g., "good job"). It specifically and clearly provides information about students' current task performance, whether they are meeting their target goal, and what they need to do to move towards skill mastery. For example, in the Kindergarten Code-Focused Lesson 1 example, a teacher might provide feedback to an incorrect response by saying, "You said this letter says /mmm/, but the letter n actually says /nnn/. You try it: What sound does n make?" Timely feedback refers to the feedback being provided in temporal proximity to when the behavior occurred. The immediacy of the feedback ensures that the student can connect the feedback to their misunderstanding. The regular provision of feedback is also important. When teachers consistently provide feedback, both about things students are doing well and about areas for improvement, students develop a clear understanding of what is expected of them to reach their goals.

Teacher Scaffolding

Sometimes, instead of providing specific feedback to correct a student's error, a teacher may provide extra support to help a student arrive at the correct answer. This extra, temporary support is called scaffolding and may include teacher feedback or materials. The purpose of scaffolding is to bridge the gap between what a student can do now and mastery of the target skill. Scaffolds typically move from minimal scaffolds to more intensive scaffolds. For example, in the Book Reading activity in the Upper-Elementary Lesson 2 example, if a student showed difficulty responding to the comprehension purpose question, the teacher could provide a sentence stem to get the student started off using a complete sentence to respond. If the student still had difficulty responding, the teacher might provide a response as a cloze sentence with one word missing for the student to fill in. As students develop competency, teachers can reduce or remove the scaffolding to foster independent skill mastery.

THINKING THROUGH SMALL-GROUP STRUCTURES AND ROUTINES

Carefully considering classroom structure and routines can help teachers get the most out of differentiated small-group instruction. Shifting to the use of small-group instruction requires teachers to consider classroom management to a greater extent (Wyatt & Chapman-DeSousa, 2017). Research suggests that incorporating positive behavioral support (e.g., group expectations, token economies to reinforce individual and group positive behaviors, self-regulation instruction and support, behavior-specific praise) into small-group reading instruction can support learning (Roberts et al., 2023). It is important that rules and expectations regarding child-managed work during small-group instruction be established—a teacher can only work with a single small group at a time, so student on-task behavior during child-managed work is critical. To increase buy-in, teachers can co-create with students the rules and expectations for student behavior during teacher-managed and child-managed small-group instruction (Gibbs, 1995; Weiss, 2013).

Figure 4. Small Group Size — What Makes a Small Group Small?

While there is a robust body of research on small groups and instruction, there are few studies focused specifically on testing the impact of group size. Many of the studies that are available have been done in the context of special education, math, or science instruction and include a range of students, from early elementary through college-level (Corrège & Michinov, 2021; Laughlin et al., 2006; Vaughn et al., 2001). Definitions also impact the literature on small-group size, with some researchers separating out the concepts of 1:1 instruction, dyads or partners, and small groups (starting at three or more students), while others consider groups of two or more students all falling under the umbrella of a small group.

Based on observation studies, the most common elementary and middle school grouping arrangements range between two to seven students (Baker et al., 2014). When considering experimental studies with elementary reading teachers, there is evidence that supports keeping small groups in this size range. In a 1996 meta-analysis, optimal learning occurred in groups with less than five students (Lou et al., 1996). Results from a study on teacher-student ratios for students with reading difficulties revealed that instruction was equally effective when provided 1:1 or with a small group of three students, but less effective when provided to groups of 10 students (Vaughn et al., 2003). Similarly, when comparing a range of group sizes (e.g., 1:1, 1:3, 1:6, 1:9, 1:12), Thurlow et al. (1993) found that qualitative and quantitative measures of instruction quality favored teacher-led groups with lower teacher-to-student ratios. Simple logistics, like the number of books in a classroom text set and the number of chairs that fit around the teacher table, are also important and may be reason enough to cap small-group size within a specific classroom setting. With this in mind, we recommend groups of three to six students as the default, while also emphasizing that this should be considered a somewhat flexible range that can be expanded based on classroom resources or student needs.

Figure 5.

Questions students may have during child-managed lessons:

What do I do...

... when I am finished?

... if I have a question?

... if I do not have everything I need to do my work?

... if my pencil lead breaks?

... if I need to go to the bathroom?

... if my neighbor is annoying me?

... if I get thirsty?

... if someone at my center asks me a question?

... if I do not know how to do the activity?

... if someone at my center is not doing the activity the right way?

... when it is time to go to the next center?

... with the work I completed?

... with the work I did not complete?

... with the supplies I used?

... to show the teacher I am ready?

Classroom routines refer to specific sequences of behaviors students learn to perform to facilitate smooth, uninterrupted transitions and to maximize instructional time. Routines are important because they help students achieve expectations and reduce problem behaviors. Spending time at the beginning of the year to ensure that well-taught, well-modeled, and well-practiced routines are in place is an essential prerequisite for effective small-group instruction. The reality that there are another 15 to 20 students in their classroom at the same time that a teacher is working with a small group makes it difficult for a teacher to deliver uninterrupted instruction. Consider all the questions students may have while their teacher is providing small-group instruction. Establishing and practicing routines means teachers are providing answers up front to all these questions students may eventually have. To teach a routine, first explain and model the routine. Next, ask a student to help you model the routine. Then, ask a student (or students) to model the routine on their own while you observe and provide feedback. Lastly, be sure to practice the routine daily for several days. Additionally, it may be beneficial to put reminders (e.g., posters) that provide visual reminders about the steps in routines in strategic places around the room.

When planning for small-group instruction, teachers can be confident that there are benefits of an intentional transition from more teacher-managed small-group time to more child-managed small-group time depending on students' levels of knowledge and skill competency. When introducing new content or supporting students who are having difficulties learning a particular skill, teachers may make more use of teacher-directed small groups. However, evidence suggests that as students develop skill competency, the transition to child-managed small groups is advantageous (Connor et al., 2011b). A teacher may "float" from child-directed small group to child-directed small group to ensure that all students are following the established rules/expectations and receiving the necessary support and feedback.

HOW CAN ADMINISTRATORS SUPPORT SMALL-GROUP DIFFERENTIATED INSTRUCTION?

School administrators play a pivotal role when they cultivate instructional best practices, prioritize effective training, and build a school or district culture focused on improving student achievement (Day et al., 2016; Li & Liu, 2020). Teachers' use of differentiated small-group instruction is influenced by the school environment (Farrell & Marsh, 2016; Mandinach & Schildkamp, 2021; Manivannan & Nor, 2020), as well as by personal factors such as their knowledge and confidence in their abilities (Tobin & Tippett, 2014). Professional development, particularly training focused on both the why and how of differentiated small-group instruction, can support teachers' understanding of ways to differentiate instruction and increase their confidence in their ability (Dixon et al., 2014). That said, even with training teachers may find it difficult to deliver differentiated small-group instruction because of school-level barriers that are outside of their control (Manivannan & Nor, 2020).

School-level factors impacting the use of differentiated small-group instruction include school leaders' skills/beliefs and school policies (Barnes et al., 2022; Henderson & Corry, 2021). Administrators and school leaders play pivotal roles in creating an environment that supports the use of differentiated small-group instruction by adopting policies, curricula, and instructional resources that are compatible with effective small-group instruction (Park & Datnow, 2017). Examples of instructional resources that lend themselves to use in differentiated small-group instruction include lessons or activities with various representations of content and multiple levels of instructional scaffolding (from less to more intensive). Administrators can also identify supplemental materials for teachers to use during differentiated, small-group instruction.

Teachers often identify time as a barrier to differentiated small-group instruction (e.g., time to prepare, plan, reflect, and practice; Bondie et al., 2019). Time in the daily schedule is a finite resource that is often beyond a teacher's control. It is crucial for administrators and school leaders to plan enough time in the schedule for teachers to regularly plan for and deliver small-group instruction. This is especially important because the frequency of small-group reading instruction for students with reading difficulties is often related to its effectiveness (Al Otaiba et al., 2005; Hall-Mills et al., 2023). District and school leaders, recognizing their roles in supporting differentiated instruction, can allocate time not only to plan for and deliver small-group instruction but also to support teachers in using data to guide instruction. Because evidence suggests teachers often feel a lack of confidence and skill when working with data (Datnow et al., 2021), school leaders should provide teachers with professional development and staff support to help with effective interpretation of students' assessment scores and other data sources to make decisions about small-group instruction. School leaders should also encourage and help teachers make time for the regular collection of progress-monitoring data to make decisions about changing student groupings.

CONCLUSION

While research evidence about effective small-group instructional strategies will continue to evolve, there is sufficient evidence available now to suggest that using small groups to differentiate instruction for students is an effective practice. It is clear that different students need different amounts and types of instruction to reach their greatest potential; small-group instruction is a great mechanism for supporting the diverse learning needs of students within most classrooms. Effective learning can be accomplished both for students at the “teacher table” and for students learning via child-managed small-group work. When small-group lessons are implemented using assessment to guide instruction, students are grouped flexibly and based on learning objectives, lesson content is differentiated, scaffolding and feedback are provided, and time is devoted to developing small-group instruction structures and routines, teachers can be confident that they are following best practices, and students can thrive in an environment that doesn’t limit learning to a one-size-fits-all approach.

REFERENCES

- Al Otaiba, S., Kosanovich, M., Torgesen, J., Lang, L., & Wahl, M. (2005). Reviewing core kindergarten and first-grade reading programs in light of No Child Left Behind: An exploratory study. *Reading & Writing Quarterly*, 21, 377–400. <https://doi.org/10.1080/10573560591002286>
- Al Otaiba, S., Connor, C. M., Folsom, J. S., Greulich, L., Meadows, J., & Li, Z. (2011). Assessment data-informed guidance to individualized kindergarten reading instruction: Findings from a cluster-randomized control field trial. *The Elementary School Journal*, 111(4), 535–560.
- Al Otaiba, S., Connor, C. M., Folsom, J. S., Wanzek, J., Greulich, L., Schatschneider, C., & Wagner, R. K. (2014). To wait in Tier 1 or intervene immediately: A randomized experiment examining first-grade response to intervention in reading. *Exceptional Children*, 81(1), 11–27. <https://doi.org/10.1177/0014402914532234>
- Anderson, R. C., & Nagy, W. E. (1993). The vocabulary conundrum (Technical Report No. 570). Center for the Study of Reading.
- Baker, S., Lesaux, N., Jayanthi, M., Dimino, J., Proctor, C. P., Morris, J., Gersten, R., Haymond, K., Kieffer, M. J., Linan-Thompson, S., & Newman-Gonchar, R. (2014). Teaching academic content and literacy to English learners in elementary and middle school (NCEE 2014-4012). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. http://ies.ed.gov/ncee/wwc/publications_reviews.aspx
- Barnes, N., Brighton, C. M., Fives, H., Meyers, T., & Moon, T. R. (2022). Where's the data to support educators' data use for instructional practice? *Theory Into Practice*, 61(3), 277–287. <https://doi.org/10.1080/00405841.2022.2096379>
- Barrett, C. A., Johnson, L. J., Truckenmiller, A. J., & VanDerHeyden, A. M. (2023). Comparing the cost–accuracy ratios of multiple approaches to reading screening in elementary schools. *Remedial and Special Education*. <https://doi.org/10.1177/07419325231190809>
- Best, J. R., Miller, P. H., & Naglieri, J. A. (2011). Relations between executive function and academic achievement from ages 5 to 17 in a large, representative national sample. *Learning and Individual Differences*, 21(4), 327–336. <https://doi.org/10.1016/j.lindif.2011.01.007>
- Boaler, J., Wiliam, D., & Brown, M. (2000). Students' experiences of ability grouping: disaffection, polarisation and the construction of failure. *British Educational Research Journal*, 26(5), 631–648. <http://www.jstor.org/stable/1501995>
- Boardman, A. G., Vaughn, S., Buckley, P., Reutebuch, C., Roberts, G., & Klingner, J. (2016). Collaborative strategic reading for students with learning disabilities in upper elementary classrooms. *Exceptional Children*, 82(4), 409–427.
- Bondie, R. S., Dahnke, C., & Zusho, A. (2019). How does changing 'one-size-fits-all' to differentiated instruction affect teaching? *Review of Research in Education*, 43(1), 336–362. <https://doi.org/10.3102/0091732X18821130>
- Castle, S., Deniz, C. B., & Tortora, M. (2005). Flexible grouping and student learning in a high-needs school. *Education and Urban Society*, 37(2), 139–150. <https://doi.org/10.1177/0013124504270787>
- Connor, C. M. (2011). Child characteristics x instruction interactions: Implications for students' literacy skill development in the early grades. In S. B. Neuman & D. K. Dickinson (Eds.), *Handbook on Early Literacy Research*, Volume 3 (3rd ed., pp. 256–267).
- Connor, C. M. (2014). Individualizing teaching in beginning reading. *Better: Evidence-based Education*, Autumn, 4–7.
- Connor, C. M., & Morrison, F. J. (2016). Individualizing student instruction in reading: Implications for policy and practice. *Policy Insights from the Behavioral and Brain Sciences*, 3(1), 54–61. <https://doi.org/10.1177/2372732215624931>

- Connor, C. M., Morrison, F. J., Fishman, B., Crowe, E. C., Al Otaiba, S., & Schatschneider, C. (2013). A longitudinal cluster-randomized controlled study on the accumulating effects of individualized literacy instruction on students' reading from first through third grade. *Psychological Science*, 24(8), 1408–1419. <https://doi.org/10.1177/0956797612472204>
- Connor, C. M., Morrison, F. J., Fishman, B., Giuliani, S., Luck, M., Underwood, P. S., Bayraktar, A., Crowe, E. C., & Schatschneider, C. (2011a). Testing the impact of child characteristics x instruction interactions on third graders' reading literacy instruction. *Reading Research Quarterly*, 46(3), 189–221.
- Connor, C. M., Morrison, F. J., Fishman, B. J., Ponitz, C. C., Glasney, S., Underwood, P. S., Piasta, S. B., Crowe, E. C., & Schatschneider, C. (2009a). The ISI classroom observation system: Examining the literacy instruction provided to individual students. *Educational Researcher*, 38(2), 85–99. <https://doi.org/10.3102/0013189X09332373>
- Connor, C. M., Morrison, F. J., Fishman, B. J., Schatschneider, C., & Underwood, P. (2007). Algorithm-guided individualized reading instruction. *Science*, 315(2007), 464–465. <https://doi.org/10.1126/science.1134513>
- Connor, C. M., Morrison, F. J., & Petrella, J. N. (2004). Effective reading comprehension instruction: Examining child x instruction interactions. *Journal of Educational Psychology*, 96(4), 682–698. <https://doi.org/10.1037/0022-0663.96.4.682>
- Connor, C. M., Morrison, F. J., Schatschneider, C., Toste, J. R., Lundblom, E., Crowe, E. C., & Fishman, B. (2011b). Effective classroom instruction: Implications of child characteristics by reading instruction interactions on first graders' word reading achievement. *Journal of Research on Educational Effectiveness*, 4(3), 173–207. <https://doi.org/10.1080/19345747.2010.510179>
- Connor, C. M., Morrison, F. J., & Slominski, L. (2006). Preschool instruction and children's emergent literacy growth. *Journal of Educational Psychology*, 98(4), 665–689. <https://doi.org/10.1037/0022-0663.98.4.665>
- Connor, C. M., Piasta, S. B., Fishman, B., Glasney, S., Schatschneider, C., Crowe, E., Underwood, P., & Morrison, F. J. (2009b). Individualizing student instruction precisely: Effects of child x instruction interactions on first graders' literacy development. *Child Development*, 80(1), 77–100. <https://doi.org/10.1111/j.1467-8624.2008.01247.x>
- Conradi Smith, K., Amendum, S. J., & Williams, T. W. (2022). Maximizing small-group reading instruction. *Reading Teacher*, 76(3), 348–356. <https://doi.org/10.1002/trtr.2146>
- Corr  g  , J. B., & Michinov, N. (2021). Group size and peer learning: Peer discussions in different group size influence learning in a biology exercise performed on a tablet with stylus. *Frontiers in Education*. <https://doi.org/10.3389/educ.2021.733663>
- Datnow, A., Lockton, M., & Weddle, H. (2021). Capacity building to bridge data use and instructional improvement through evidence on student thinking. *Studies in Educational Evaluation*, 69. <https://doi.org/10.1016/j.stueduc.2020.100869>
- Day, C., Gu, Q., & Sammons, P. (2016). The impact of leadership on student outcomes: How successful school leaders use transformational and instructional strategies to make a difference. *Educational Administration Quarterly*, 52(2), 221–258. <https://doi.org/10.1177/0013161X15616863>
- Denton, C. A., Wexler, J., Vaughn, S., Bryan, D., Reed, D., & Fletcher, J. M. (2014). Effective instruction for adolescent struggling readers: A practice brief. Portsmouth, NH: RMC Research Corporation, Center on Instruction.
- Dixon, D., Yssel, N., McConnell, T., & Hardin, T. (2014). Differentiated instruction, professional development, and teacher efficacy. *Journal for the Education of the Gifted*, 37(2), 111–127. <https://doi.org/10.1177/0162353214529042>
- Duke, N. K., & Cartwright, K. B. (2021). The science of reading progresses: Communicating advances beyond the simple view of reading. *Reading Research Quarterly*, 56(S1), S25–S44. <https://doi.org/10.1002/rq.411>

- Eckert, T. L., & Arbolino, L. A. (2005). The role of teacher perspectives in diagnostic and program evaluation decision making. In R. Brown-Chidsey (Ed.), *Assessment for intervention: A problem-solving approach* (pp. 65–81). The Guilford Press.
- Farrell, C., & Marsh, J. (2016). Contributing conditions: A qualitative comparative analysis of teachers' instructional responses to data. *Teaching and Teacher Education*, 60, 398–412. <https://doi.org/10.1016/j.tate.2016.07.010>
- Förster, N., Kawohl, E., & Souvignier, E. (2018). Short- and long-term effects of assessment-based differentiated reading instruction in general education on reading fluency and reading comprehension. *Learning and Instruction*, 56, 98–109. <https://doi.org/10.1016/j.learninstruc.2018.04.009>
- Gatlin-Nash, B., Hwang, J. K., Tani, N. E., Zargar, E., Wood, T. S., Yang, D., Powell, K. B., & Connor, C. M. (2021). Using assessment to improve the accuracy of teachers' perceptions of students' academic competence. *The Elementary School Journal*, 121(4), 609–634. <https://doi.org/10.1086/714083>
- Gibbs, G. (1995). Changing teachers' conceptions of teaching and learning through action research. In A. Brew (Ed.), *Directions in staff development* (pp. 21–35). Buckingham: Society for Research into Higher Education and Open University Press.
- Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial and Special Education*, 7(1), 6–10. <https://doi.org/10.1177/074193258600700104>
- Graham, L. J., De Bruin, K., Lassig, C., & Spandagou, I. (2020). A scoping review of 20 years of research on differentiation: Investigating conceptualisation, characteristics, and methods used. *Review of Education*, 9(1), 161–198. <https://doi.org/10.1002/rev3.3238>
- Graue, M. E., Ryan, S., Nocera, A., Northey, K., & Wilinski, B. (2017). Pulling preK into a K–12 orbit: The evolution of preK in the age of standards. *Early Years: An International Research Journal*, 37(1), 108–122. <https://doi.org/10.1080/09575146.2016.1220925>
- Hall, M., & Burns, M. (2018). Meta-analysis of targeted small-group reading interventions. *Journal of School Psychology*, 66, 54–66. <https://doi.org/10.1016/j.jsp.2017.11.002>
- Hall-Mills, S., Ireland, M., Flynn, P. F., & Hoffman, L.V. (2023). Evidence-based practice engagement in schools. *ASHA journals*, 1. <https://doi.org/10.23641/asha.23152817.v1>
- Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). Using student achievement data to support instructional decision making (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. <http://ies.ed.gov/ncee/wwc/publications/practiceguides/>
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Henderson, J., & Corry, M. (2021). Teacher anxiety and technology change: A review of the literature. *Technology, Pedagogy and Education*, 30, 1–15.
- Hogan, T. P., Adlof, S. M., & Alonzo, C. N. (2014). On the importance of listening comprehension. *International Journal of Speech-Language Pathology*, 16(3), 199–207. <https://doi.org/10.3109/17549507.2014.904441>
- Jones, J. S., Conradi, K., & Amendum, S. J. (2016). Matching interventions to reading needs: A case for differentiation. *The Reading Teacher*, 70(3), 307–316. <https://doi.org/10.1002/trtr.1513>
- Kulik, C.-L. C., Kulik, J. A., & Bangert-Drowns, R. L. (1990). Effectiveness of mastery learning programs: A meta-analysis. *Review of Educational Research*, 60(2), 265–299. <https://doi.org/10.3102/00346543060002265>
- Kulik, J. A., & Kulik, C.-L. C. (1992). Meta-analytic findings on grouping programs. *Gifted Child Quarterly*, 36(2), 73–77. <https://doi.org/10.1177/001698629203600204>
- Laughlin, P., Hatch, E., Silver, J., & Boh, L. (2006). Groups perform better than the best individuals on letters-to-numbers problems: Effects of group size. *Journal of Personality and Social Psychology*, 90, 644–51. <https://doi.org/10.1037/0022-3514.90.4.644>
- Lewis, S. G., & Batts, K. B. (2005). How to implement differentiated instruction? Adjust, adjust, adjust: North Carolina project begins with encouragement from administrators. *Journal of Staff Development*, 26, 26–31.

- Li, L., & Liu, Y. (2020). An integrated model of principal transformational leadership and teacher leadership that is related to teacher self-efficacy and student academic performance. *Asia Pacific Journal of Education*, 42(4), 661–678. <https://doi.org/10.1080/02188791.2020.1806036>
- Lou, Y., Abrami, P. C., Spence, J. C., Poulsen, C., Chambers, B., & d'Apollonia, S. (1996). Within-class grouping: A meta-analysis. *Review of Educational Research*, 66(4), 423–458. <https://doi.org/10.3102/00346543066004423>
- Lyon, C., Hogan, E. K., & Kearns, D. M. (2020). Individualizing literacy instruction in co-taught classrooms through a station teaching model. *Intervention in School and Clinic*. <https://doi.org/10.1177/1053451220944376>
- Mandinach, E., & Schildkamp, K. (2021). The complexity of data-based decision making: An introduction to the special issue. *Studies in Educational Evaluation*, 69. <https://doi.org/10.1016/j.stueduc.2020.100906>
- Manivannan, M. L., & Nor, F. (2020). Barriers in differentiated instruction: A systematic review of the literature. *Journal of Critical Reviews*, 7, 293–297. <https://doi.org/10.31838/jcr.07.06.51>
- McGillicuddy, D., & Devine, D. (2020). “You feel ashamed that you are not in the higher group”—Children’s psychosocial response to ability grouping in primary school. *British Educational Research Journal*, 46(3), 553–573. <https://doi.org/10.1002/berj.3595>
- Morgan, P. L., & Fuchs, D. (2007). Is there a bidirectional relationship between children’s reading skills and reading motivation? *Exceptional Children*, 73(2), 165–183. <https://doi.org/10.1177/001440290707300203>
- Oakes, J., Lipton, M., Anderson, L., & Stillman, J. (2018). *Teaching to Change the World* (5th ed.). Taylor and Francis.
- Paige, D. D. (2011). Engaging struggling readers through situational interest: A model proposing the relationships among extrinsic motivation, oral reading fluency, comprehension, and academic achievement. *Reading Psychology*, 32(5), 395–425.
- Park, V., & Datnow, A. (2017). Ability grouping and differentiated instruction in an era of data-driven decision making. *American Journal of Education*, 123(2), 281–306. <https://doi.org/10.1086/689930>
- Peterson, E. R., Rubie-Davies, C., Osborne, D., & Sibley, C. (2016). Teachers’ explicit expectations and implicit prejudiced attitudes to educational achievement: Relations with student achievement and the ethnic achievement gap. *Learning and Instruction*, 42, 123–140. <https://doi.org/10.1016/j.learninstruc.2016.01.010>
- Puzio, K., Colby, G. T., & Algeo-Nichols, D. (2020). Differentiated literacy instruction: Boondoggle or best practice? *Review of Educational Research*, 90(4), 459–498. <https://doi.org/10.3102/0034654320933536>
- Reis, S. M., McCoach, D. B., Little, C. A., Muller, L. M., & Kaniskan, R. B. (2011). The effects of differentiated instruction and enrichment pedagogy on reading achievement in five elementary schools. *American Educational Research Journal*, 48(2), 462–501. <https://doi.org/10.3102/0002831210382891>
- Roberts, G. J., Lindström, E. R., Watts, G. W., Coté, B., & Ghosh, E. (2023). The engaged learners program: Effects on student engagement during small group reading instruction. *Behavior Modification*, 48(2), 150–181. <https://doi.org/10.1177/01454455231213980>
- Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. In S. Neuman & D. Dickinson (Eds.), *Handbook for research in early literacy* (pp. 97–110). Guilford Press.
- Schildkamp, K., Lai, M. K., & Earl, L. (Eds.). (2013). *Data-based decision making in education*. Springer Netherlands. <https://doi.org/10.1007/978-94-007-4816-3>
- Schunk, D. H., & Zimmerman, B. J. (2007). Influencing children’s self-efficacy and self-regulation of reading and writing through modeling. *Reading & Writing Quarterly*, 23(1), 7–25. <https://doi.org/10.1080/10573560600837578>
- Shanahan, T. (2018). Should reading be taught whole class or small group? Shanahan on Literacy. <https://www.shanahanonliteracy.com/blog/should-reading-be-taught-whole-class-or-small-group>
- Shanahan, T. (2024). Small group phonics in the classroom—Good idea or not? Shanahan on Literacy. <https://www.shanahanonliteracy.com/blog/small-group-phonics-in-the-classroom-good-idea-or-not>

- Shanahan, T., Callison, K., Carriere, C., Duke, N. K., Pearson, P. D., Schatschneider, C., & Torgesen, J. (2010). Improving Reading Comprehension in Kindergarten through 3rd Grade: IES Practice Guide. NCEE 2010-4038. *What Works Clearinghouse*.
- Snow, C. (2002). Reading for understanding: Toward an R&D program in reading comprehension, RAND Corporation, MR-1465-OERI, 2002. As of February 22, 2024: https://www.rand.org/pubs/monograph_reports/MR1465.html
- Sørensen, A. B., & Hallinan, M. T. (1986). Effects of ability grouping on growth in academic achievement. *American Educational Research Journal*, 23(4), 519–542. <https://doi.org/10.2307/1163088>
- Steenbergen-Hu, S., Makel, M. C., & Olszewski-Kubilius, P. (2016). What one hundred years of research says about the effects of ability grouping and acceleration on K–12 students' academic achievement: Findings of two second-order meta-analyses. *Review of Educational Research*, 86(4), 849–899. <http://www.jstor.org/stable/44668238>
- Thurlow, M. L., Ysseldyke, J. E., Wotruba, J. W., & Algozzine, B. (1993). Instruction in special education classrooms under varying student-teacher ratios. *The Elementary School Journal*, 93(3), 305–320. <http://www.jstor.org/stable/1001897>
- Timmermans, A. C., de Boer, H., & van der Werf, M. P. C. (2016). An investigation of the relationship between teachers' expectations and teachers' perceptions of student attributes. *Social Psychology of Education*, 19(2), 217–240. <https://doi.org/10.1007/s11218-015-9326-6>
- Tobin, R., & McInnes, A. (2008). Accommodating differences: Variations in differentiated literacy instruction in grade 2/3 classrooms. *Literacy*, 42, 3–9. <https://doi.org/10.1111/j.1467-9345.2008.00470.x>
- Tobin, R. & Tippet, C. (2014). Possibilities and potential barriers: Learning to plan for differentiated instruction in elementary science. *International Journal of Science and Mathematics Education*, 12. <https://doi.org/10.1007/s10763-013-9414-z>
- Tomlinson, C. A. (2014). The differentiated classroom: Responding to the needs of all learners (2nd ed.). Association for Supervision and Curriculum Development.
- Vaughn, S., Hughes, M. T., Moody, S. W., & Elbaum, B. (2001). Instructional grouping for reading for students with LD: Implications for practice. *Intervention in School and Clinic*, 36(3), 131–137. <https://doi.org/10.1177/105345120103600301>
- Vaughn, S., Linan-Thompson, S., Kouzekanani, K., Bryant, D., Dickson, S., & Blozis, S. (2003). Reading instruction grouping for students with reading difficulties. *Remedial and Special Education*, 24, 301–316. <https://doi.org/10.1177/07419325030240050501>
- Völlinger, V. A., Lubbe, D., & Stein, L. K. (2023). A quasi-experimental study of a peer-assisted strategy-based reading intervention in elementary school. *Contemporary Educational Psychology*, 73. <https://doi.org/10.1016/j.cedpsych.2023.102180>
- Ward, E., MacPhee, J., Siegal, S.W., & Tavernit, J. (2024). Your teacher-led small group instruction survey [Unpublished raw data]. Scholastic, Inc.
- Watts-Taffe, S., (Barbara) Laster, B. P., Broach, L., Marinak, B., Connor, C. M., & Walker-Dalhouse, D. (2012). Differentiated instruction: Making informed teacher decisions. *The Reading Teacher*, 66(4), 303–314. <https://doi.org/10.1002/TRTR.01126>
- Weiss, S. L. (2013). Learning-related behaviors: Small group reading instruction in the general education classroom. *Intervention in School and Clinic*, 48(5), 294–302. <https://doi.org/10.1177/1053451212472231>
- Wilkinson, I., & Fung, I. (2002). Small-group composition and peer effects. *International Journal of Educational Research*, 37(5), 425–447. [https://doi.org/10.1016/S0883-0355\(03\)00014-4](https://doi.org/10.1016/S0883-0355(03)00014-4)
- Wisniewski B., Zierer K., & Hattie, J. (2020). The power of feedback revisited: A meta-analysis of educational feedback research. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.03087>
- Wyatt, T., Chapman-DeSousa, B. (2017). Teaching as interaction: Challenges in transitioning teachers' instruction to small groups. *Early Childhood Education Journal*, 45, 61–70 <https://doi.org/10.1007/s10643-015-0758-6>
- Yu, J., Kreijkes, P., & Salmela-Aro, K. (2022). Students' growth mindset: Relation to teacher beliefs, teaching practices, and school climate. *Learning and Instruction*, 80. <https://doi.org/10.1016/j.learninstruc.2022.101616>

