Current Practice ALERTS

Sponsored by: Division for Learning Disabilities (DLD) and Division for Research (DR) of the Council for Exceptional Children

A focus on: Collaborative Strategic Reading

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What is Collaborative Strategic Reading?

Collaborative Strategic Reading (CSR) is a peer-mediated reading comprehension instructional model informed by the methods in reciprocal teaching (Palincsar & Brown, 1984), cooperative learning (Johnson, Johnson, & Stanne, 2000), and transactional strategies instruction (Pressley et al., 1992). The strategies in CSR are designed to teach students with diverse abilities comprehension strategies for use with expository text (Klingner, Vaughn, & Boardman, 2015). CSR explicitly uses strategy instruction to teach meta-cognitive and self-monitoring skills theorized to lead to improved reading comprehension (Klingner, Vaughn, & Schumm, 1998). The approach uses a mix of whole class instruction and small cooperative peer learning groups. Whole group instruction in CSR begins with teacher modeling, role playing, and teacher think-alouds. These steps are followed by the formation of heterogeneous cooperative learning groups in which students employ four comprehension strategies before, during, and after reading: (a) preview, (b) click and clunk, (c) get the gist, and (d) wrap up (Bremer, Vaughn, Clapper, & Kim, 2002; Klingner et al., 2015; Klingner, Vaughn, Boardman, & Swanson, 2012).

For Whom is CSR Intended?

Collaborative Strategic Reading was developed to improve reading comprehension skills for students with learning disabilities (LD) and students at risk for reading difficulties. The early implementation of CSR was conducted in linguistically diverse classrooms with both English language learners (ELL) and non–ELL students (Klingner & Vaughn, 1996). Early studies suggested that CSR had positive effects for both ELL and non–ELL students (Klingner et al., 1998). Some early research suggested that the peer-mediated group learning aspect of CSR may support ELL students due largely to cooperative learning aspects that allow linguistically diverse students to have support in their native language from peers who are bilingual (e.g., Klingner & Vaughn, 2000; Saenz, Fuchs, & Fuchs, 2005). In contrast, a large-scale study (Hitchcock et al., 2011) revealed that neither ELL nor non-ELL 5th graders benefited from CSR (though implementation fidelity of the intervention may have been a confounding issue). However, across two decades of research, CSR has demonstrated positive outcomes for elementary and middle school students at risk for reading difficulties; students with LD; average and high achieving students; and, in most cases, ELL students (e.g., Boardman, Vaughn, et al., 2016; Bryant et al., 2000; Klingner et al., 1998; Vaughn et al., 2000). Thus, CSR is an appropriate strategy for elementary and middle school struggling readers, students with LD, and linguistically diverse students.

How Does It Work?

In CSR, teachers provide explicit instruction to students in meta-cognitive strategy use and then facilitate peer-mediated learning within mixed-ability cooperative learning groups (Klingner & Vaughn, 1998). An important aspect of CSR is that it "rejects dominant notions of literacy as an isolated act and instead, emphasizes peer interaction which reflects the cultural practices of many students in urban schools" (Boardman, Klingner, Buckley, Annamma, & Lasser, 2015, p. 1259). The implementation of CSR involves teachers providing explicit instruction and modeling in four comprehension strategies: (a) preview, (b) click and clunk, (c) get the gist, and (d) wrap up. When introducing CSR to students, the teacher first models all the steps in whole group instruction. After students demonstrate competency in the strategies, they employ the strategies in small student groups. Each strategy is described in Figure 1, on page 2.

In CSR, the students have specific roles in the cooperative learning groups that are rotated across lessons. After students demonstrate the ability to apply the four strategies through teacher-led activities, they are taught the different roles they will perform while using CSR in the peer-mediated groups. Student roles in CSR groups can include:

- **Leader:** This student leads the group in the implementation of CSR by identifying the order of text to be read and which strategy to apply. The leader may ask the teacher for assistance, if necessary.
- **Clunk expert:** This student uses "clunk cards" to remind the group of the steps to follow when trying to figure out a difficult word or concept. Each clunk card describes a fix-up strategy. Fix-up strategies include (a) use context clues: reread the sentence with the clunk and look for key concepts to figure out the word, (b) reread the sentences before and after the clunk to look for clues, (c) identify an affix in the word to help with comprehension, and (d) break the word apart to look for root words.
- **Reporter:** During the class wrap-up, this student reports to the class the main ideas (the gist) learned in the small groups.

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FIGURE 1: COMPREHENSION STRATEGIES IN CSR (ADAPTED FROM KLINGNER & VAUGHN, 1998)

PREVIEW THE TEXT (BEFORE READING)

- Previewing the text activates prior knowledge, stimulates students' interest about the topic, and facilitates making predictions. During this step, students look at headings, key words, pictures, and charts. The teacher facilitates questions and predictions from students.

CLICK AND CLUNK (DURING READING)

- In this step, students monitor their understanding of the text. Clicking and clunking is designed to teach students to be aware of when they understand the text, and when they do not understand. Students self-monitor their understanding (the "clicks") as they are reading. When students find a word or concept that they find difficult to understand, it is a "clunk." Students identify the clunks and then figure them out as a group using "fix-up strategies" such as partner retelling and determining meaning using affixes, roots, and vocabulary or sentence context clues.

GET THE GIST (DURING READING)

- Students identify the "who" or "what" of the text and the most important ideas. Students explain the main idea of pre-determined two- to four-paragraph portions of text. Students share their "gist" statements in their own words within cooperative groups as a check for understanding.

WRAP UP (AFTER READING)

- There are two parts to Wrap Up. First, the students identify the important concepts from the text they read. Second, students develop different types of questions and answers about that information. With teacher scaffolding, students develop literal questions, within-text inference questions, and higher-order thinking questions regarding the author's intent or purpose. Students then ask and answer the questions developed.

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Overall, CSR provides a flexible instructional model in which students, with guidance from the teacher and peer support, can become skilled at applying reading comprehension strategies while reading a variety of texts. We refer readers to Klingner and Vaughn (1998) for detailed guidelines on how to implement CSR.

How Adequate is the Research Knowledge Base?

Almost 20 years of research has examined the effectiveness of CSR for students at risk for reading failure, as well as for average achieving students and ELL students (e.g., Beyers, Lembke, & Curs, 2013; Klingner, Vaughn, Hughes, & Arguelles, 1999). As early as 1998, Klingner and colleagues reported on the effectiveness of CSR, citing significant growth as measured by the *Gates-MacGinitie* reading comprehension scores (effect size = 0.34) for students receiving CSR compared with students in a control group (both intervention and control included students with LD and ELL students). The research that followed has employed a wide variety of research designs and analytic methods, including many studies that used randomized control group design and multilevel analytic models (e.g., Boardman, Vaughn, et al., 2016). Most studies found statistically significant main effects of CSR on improved student reading comprehension for diverse students in elementary and middle school using standardized measures. However, one study by Vaughn et al. (2013) examined a follow-up year (year 2) of CSR implementation in 26 middle school reading or English classrooms and 22 control group classrooms, and did not find a main effect for CSR on student outcomes, nor that CSR implementation fidelity was significantly related to student outcomes.

The research on CSR for students with LD is a bit more limited in that several studies have not reported disaggregated findings for students with LD specifically. However, a recent study of CSR reported the results of a large-scale study with 60 4th- and 5th-grade teachers who were randomly assigned to teach CSR or to a control group (Boardman, Vaughn, et al., 2016). They found that students with LD who received CSR instruction made significantly greater gains in reading comprehension than students with LD in control classrooms. In particular, they reported a significant, positive interaction effect between the CSR implementation group and LD status. Students with LD scored higher on the *Gates-MacGinitie* in the CSR condition (g = 0.52).

Other research on CSR that disaggregated findings for or focused solely on poor readers and students with disabilities, including LD, has been consistent in finding positive effects of CSR for these students. For example, Kim et al. (2006) implemented a computer-assisted CSR intervention with middle school students with LD in two classrooms, and found statistically significant gains in reading for students with LD receiving computer-assisted CSR, compared with the control group. Kim and colleagues reported improved reading comprehension on the *Woodcock Reading Mastery Test* (standardized mean difference [SMD] effect size = 0.50) and improved performance on researcher-designed "Get the Gist" (SMD effect size = 0.95) and "Questioning" (SMD effect size = 1.18). Boardman et al. (2015) examined the effects of CSR among students in classrooms assigned to one of three conditions: full CSR intervention, partial CSR intervention, or control

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group (business as usual in reading instruction). They reported significant effects (g = 0.18) for students receiving the full CSR intervention, including for all students who began the study as low readers (i.e., ELL, LD, other disabilities).

The studies outlined in Table 1 represent the empirical base over 20 years for the efficacy of CSR for improving reading comprehension skills for elementary and secondary students with LD. Although two of the seven studies (i.e., Boardman, Buckley et al., 2016 and Vaughn et al., 2011) described in Table 1 did not report disaggregated data specifically for students with LD (just special education status), they did include students with LD in both experimental and control groups. The studies involved a range of research designs and used a variety of reading measures. All studies found support for the effectiveness of CSR.

TABLE 1: SUMMARY OF STUDIES SUPPORTING COLLABORATIVE STRATEGIC READING

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RESEARCH DESIGN	SAMPLE	OUTCOME MEASURE	FINDING(S)	STUDY
Pretest-posttest quasi-experimental (with classes randomly assigned) control group design	141 4th grade students: 85 experimental group & 56 in control group, 12 with LD and 71 ELL	*Gates-MacGinitie Reading Test*-comprehension, 50- question unit posttest	Students in the intervention group (including students with LD and ELL students) had significantly greater growth in *Gates-MacGinitie* reading comprehension scores (effect size=0.34) than control group. No statistically significant difference in unit posttest scores.	Klingner, Vaughn, & Schumm, 1998
Pretest-posttest quasi-experimental design group comparison (CSR vs. PR)	111 3rd grade students: 55 in CSR group & 56 in PR group, 16 students with reading LD	*Gray Oral Reading Test, Test Of Reading Fluency*	No statistically significant group (CSR vs. PR) effects. Reading rate increased significantly from pretest to posttest for both PR and CSR groups for participants with LD on all outcomes.	Vaughn et al., 2000
Pretest-posttest quasi-experimental control group design	34 middle school students with disabilities (16 in intervention group; 18 in control group); 28 with LD, 6 other disabilities	Researcher-developed measure (finding main idea, question generation), *Woodcock Reading Mastery Test*-passage comprehension	Treatment (computer-assisted CSR) group outperformed the control group on the *Woodcock Reading Mastery Test*-posttest (SMD effect size = 0.50). On the researcher-developed measure, CSR group also outperformed the control group (for main idea, SMD effect size=0.95; for the question generation, SMD effect size=1.18).	Kim et al., 2006
Randomized block study design	782 7th and 8th grade students, 400 CSR (34 classes) and 382 (27 classes) control group, 95 struggling readers	AIMSweb reading curriculum based measure, *Gates-MacGinitie Reading Test-comprehension, TOWRE, TOSREC, & MSI*	On *Gates-MacGinitie,* participants in CSR significantly outperformed nonparticipants (g=0.36) when effects of clustering and pretreatment differences were explicitly modeled. Significant interaction indicated that when student performance on the *MSI* was controlled for, CSR group made significantly greater gains than comparison group. No significant group differences on AIMSweb and *TOSREC.* Results for struggling readers were similar to those for the total sample.	Vaughn et al., 2011

Notes. CSR=Collaborative Strategic Reading. ELL=English Language Learners. *g* = Hedge's *g*. LD=Learning disabilities. MSI=*Metacomprehension Strategy Index*. PR=Partner Reading. SMD=standard mean difference. TOSREC=*Test of Silent Reading Efficiency and Comprehension*. TOWRE=*Test of Word Reading Efficiency*.

TABLE 1 (CONT): SUMMARY OF STUDIES SUPPORTING COLLABORATIVE STRATEGIC READING

RESEARCH DESIGN	SAMPLE	OUTCOME MEASURE	FINDING(S)	STUDY
Pretest-posttest randomized control group design	19 middle school teachers; 1,074 students (394 in Full CSR group, 261 in Partial CSR group, and 419 in control group), 544 ELL, 122 in special education, 81 with LD	*Gates-MacGinitie Reading Test*-comprehension; State standards-based assessment in reading & writing	*Gates-MacGinitie* comprehension scores significantly higher for Full CSR than for control group (g=0.18). No differences on the *Gates-MacGinitie* between Partial CSR and control group. Reading and writing state assessment scores were not statistically different between groups. All students who received CSR made similar gains, including ELL students and students with LD.	Boardman, Klingner, Buckley, Annamma, & Lasser, 2015
Multi-site cluster, pretest-posttest randomized control design	60 teachers; 1,372 4th & 5th grade students (686 CSR & 686 control group), 342 ELL, 128 in special education, 87 with LD	*Gates-MacGinitie Reading Test*-comprehension	No significant main effect of CSR on student outcomes; a significant interaction effect between condition and posttest scores for students with LD. Students with LD scored 4.86 points higher on *Gates-MacGinitie* in CSR condition (g=0.52).	Boardman, Vaughn, et al., 2016
Multi-level, single-group pretest-posttest design	Study 1: 597 middle school students (61 in special education) Study 2: 552 middle school students (67 in special education)	*Gates-MacGinitie Reading Test*-comprehension; fidelity checklist	No main effects for quality or amount of CSR instruction, but significant interaction effects between quality of implementation and special education status in both studies. Higher quality CSR instruction associated with higher reading outcomes for students with disabilities.	Boardman, Buckley, et al., 2016

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How Practical Is It?

Collaborative Strategic Reading is a teacher-modeled, peer-mediated strategy for reading comprehension that can be applied to any content area text. Therefore, teachers may integrate models like CSR in core content subjects without sacrificing instructional time. Because CSR can be implemented in a variety of content areas, students may also be more likely to generalize the reading comprehension strategies across academic areas/courses. This may be particularly important for struggling readers in secondary school (Bremer et al., 2002). In addition, CSR instruction requires no special tools or resources outside of a typical classroom. Although some teachers may find it challenging to implement a multi-component reading intervention such as CSR with high fidelity (e.g., Klingner, Vaughn, & Schumm, 1998), one recent study reported a strong relationship between fidelity of implementation and improved reading outcomes for students with disabilities (Boardman, Buckley, et al., 2016). Teachers who do not use peer-mediated instruction (i.e., small groups) as part of their current instructional practices may also find CSR implementation challenging (Vaughn et al., 2011).

Kim et al.'s (2006) study on computer-assisted CSR with middle school students with LD also examined students' perceptions of CSR. Most of the students (12 out of 16) perceived the CSR intervention positively. The four students who did not report positive perceptions noted that they found the CSR program "boring." The two participating teachers also reported positive perceptions and reported that the CSR program was an effective instructional tool. Klingner, Vaughn, Hughes, and Arguelles (1999) examined teacher implementation of CSR (as one of 3 interventions) over three years, as well as teachers' perceptions of the sustainability of CSR. They reported that teachers found that schools' standardized testing focus led to a lack of instructional time for non-test-preparation instruction, but also that adequate training, access to materials, and students' acceptance of the CSR strategy were factors that facilitated sustained use of CSR.

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What Questions Remain?

CSR has been found effective for improving reading comprehension for students at risk for reading failure, students with LD, and average-achieving students in elementary and middle school grades. Most of the research base also demonstrates gains for ELLs; however, a recent, large-scale study did not find improved gains for ELL students receiving CSR compared with their non-ELL peers (Hitchcock et al., 2011). Thus, additional research on the efficacy of CSR for ELLs is warranted. Further, there is limited research on CSR with high school or post-secondary students (e.g., Zoghi, Mustapha, & Maasum, 2010). Additional research with high school and college students with LD would bolster the strong evidence base for CSR.

How Do I Learn More?

There are several websites and support resources that teachers can use to learn more about CSR and how to implement it in classrooms for diverse students and students with LD. Listed below are resources and a brief description of each resource.

Klingner, J., & Vaughn, S. (1998). Using Collaborative Strategic Reading. *Teaching Exceptional Children, 30*, 32-37. doi: 10.1177/004005999803000607
This article describes how to teach CSR to mixed-ability students using examples from an upper elementary school classroom.

http://toolkit.csrcolorado.org/
A comprehensive website that includes on-line learning modules, video examples, and instructional resources for teachers. Access to the site's resources is free but requires registration.

https://www.edutopia.org/discussion/collaborative-strategic-reading-csr-comprehension-strategy-enhance-content-area-learning
This website offers a teacher-friendly outline of the CSR strategies.

http://iris.peabody.vanderbilt.edu/module/csr/
The Iris Center at Vanderbilt University provides a 5-step learning module for teachers on CSR.

http://www.adlit.org/strategies/22355/
An adolescent literacy website that provides classroom strategies on CSR, a long with graphic organizer templates for use as CSR learning logs.

http://www.meadowscenter.org/files/msmi_resources/Webinar_02-14.pdf
The Meadows Center at University of Texas-Austin provides a webinar resource on CSR led by Dr. Vaughn.

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About the Alert Series

Current Practice Alerts is a joint publication of the **Division for Learning Disabilities** and the **Division for Research of the Council for Exceptional Children**. The series is intended to provide an authoritative resource concerning the effectiveness of current practices intended for individuals with specific learning disabilities.

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