Current Practice ALERTS

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

A focus on: **Peer-Mediated Instruction for Secondary Students**
With and At-Risk for Learning Disabilities

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What Is Peer-Mediated Instruction

Many adolescents in the U.S. have not achieved adequate levels of reading and math proficiency (National Center for Education Statistics, 2014). Struggling academically can lead to negative outcomes such as disengagement, dropout, and even incarceration (Hernandez, 2012). In response to this, educators have developed and validated effective interventions to address deficiencies in critical academic areas (e.g., Chard, Cook, & Tankersley, 2013). Regardless of the content being targeted in an intervention, the means through which it is delivered may impact its effectiveness (Archer & Hughes, 2011). For example, it is important that teachers incorporate features of effective instruction such as modeling, immediate corrective feedback, and plenty of opportunities for students to respond and practice (Hattie & Timperley, 2007). This is especially critical for students with or at-risk for learning disabilities (LD; Vaughn, Wanzek, Murray, & Roberts, 2012).

To enhance the effectiveness of an intervention, one potentially effective instructional format is peer-mediated instruction. Peer-mediated instruction is a broad term for an instructional format that requires same-age peers to take on roles (e.g., tutor, collaborator) and follow a systematic procedure to learn content and/or improve skills (e.g., reading fluency; Maheady, Harper, & Sacca, 1988). Peer-mediated instruction can be implemented in a variety of formats that require students to work in partners or small groups. Some of the most commonly implemented formats of peer-mediated instruction include: (a) Classwide Peer Tutoring (CWPT; e.g., Greenwood, Maheady, & Delquadri, 2002), (b) Collaborative Strategic Reading (e.g., Vaughn et al., 2011), (c) Peer-assisted Learning Strategies (e.g., Calhoon & Fuchs, 2003), (d) Peer Tutoring (e.g., Dufrene et al., 2010), (e) Reciprocal Tutoring (e.g., Wexler, Vaughn, Roberts, & Denton, 2010), and (f) Team-based Learning (TBL; Wanzek et al., 2014). See Figure 1 *(on page 2)* for a description of the primary features of each of these peer-mediated instructional delivery formats.

Regardless of the format used or content/skills being targeted, the most common features of peer-mediated instruction include pairing students, the use of small groups, alternating roles, pairing more- and less-abled peers, and partner reading (Wexler, Reed, Pyle, Mitchell, & Barton, 2015). All of these features incorporate elements of effective instruction mentioned above. For example, by pairing a higher-level reader with a lower-level reader, modeling is incorporated into instructional delivery. Furthermore, utilizing peers for instruction means that *all* students in the class are actively participating and therefore have a chance to practice, respond, and receive immediate corrective feedback. In contrast, teacher-led instruction typically allows only one or a few students the opportunity for practice and feedback (Hattie & Timperley, 2007).

For Whom Is It Intended?

Peer-mediated instruction is an instructional format that is intended to capitalize on and target heterogeneous groups of students. 60% of students with disabilities spend 80% or more of their day in the general education setting (National Center for Education Statistics, 2011). At the secondary level, this means that many content-area general education classes are composed of students with a variety of needs, including students with or at-risk for LD. In this common scenario, it is essential that teachers consider ways to differentiate instruction to meet the learning needs of diverse learners (Tomlinson, 2001). Peer-mediated instruction is one way to do that; as such, it is intended for use with a range of learners, including students with or at-risk for LD, and is commonly implemented in the general education setting.

Depending on the make-up of the class, peer-mediated instruction can also be implemented in a supplemental setting (e.g., Tier 2). In fact, some consider peer-mediated instruction an appealing option for supplemental settings because it requires relatively few resources (cf. Bemboom & McMaster, 2013). One important caveat that teachers may want to consider, however, has to do with class composition. As previously mentioned, many peer-mediated instruction models depend on having same-age peers with heterogeneous ability levels; so a homogeneous

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FIGURE 1: FEATURES OF PEER-MEDIATED INSTRUCTIONAL FORMATS

	PAIRS OF STUDENTS	SMALL GROUPS	ALTERNATING ROLES	DIFFERENT ABILITY LEVELS	PARTNER READING
Class-Wide Peer Tutoring	✓	✓	✓	✓	✓
Collaborative Strategic Reading		✓	✓	✓	✓
Peer-Assisted Learning Strategies	✓		✓	✓	✓
Peer Tutoring	✓			✓	✓
Reciprocal Tutoring	✓	✓	✓	✓	✓
Team-Based Learning		✓	✓	✓	

FIGURE 1

continued from page 1

group of the lowest-ability readers, as is common in Tier 2 settings, may compromise an essential component of some forms of this practice. To maximize effectiveness of peer-mediated instruction, it is important to consider (a) for whom peer-mediated instruction is appropriate and (b) how to appropriately pair or group students.

How Does It Work?

Peer-mediated instruction works differently depending on the format being implemented. In a peer-pairing format (e.g., peer-assisted learning strategies, peer tutoring, CWPT, reciprocal tutoring), students are purposefully paired and follow a systematic procedure through which each peer takes on roles and acts as the *tutor* and then *tutee* (or *reader* and *coach*) while following scripted prompts. These procedures also include a built-in feedback component. It is advisable to pair a slightly higher-ability student with a slightly lower-ability student; not only does this provide a model for the less-abled peer, but it also optimizes collaboration because the students are not so far apart in ability that they are incapable of providing each other feedback. Figure 2 *(on page 3)* lists recommended resources and further readings on peer pairing.

Another format of peer-mediated instruction requires a small group to work collaboratively to learn content (i.e., Collaborative Strategic Reading; Vaughn et al., 2011). In this format, teachers can purposefully assign students with particular skills to a group and then designate and rotate students' roles (e.g., leader, timekeeper) to facilitate active participation of all group members. Figure 3 *(on page 4)* provides links to a website and other resources that provide an extensive explanation of Collaborative Strategic Reading.

GO for it

Team-based learning is another example of a small group approach to peer-mediated instruction. In TBL, students engage in oral discourse with peers about content. The goal of TBL is for students to become active learners of content by thinking critically about the content, solving problems, and considering different positions (Kent, Wanzek, & Swanson, 2015). This approach requires students to work in permanent, heterogeneous groups. It also incorporates individual and group accountability as well as peer evaluation.

How Adequate Is the Research Knowledge Base?

The research base for peer-mediated instruction is more extensive at the elementary level than at the secondary level (i.e., Elbaum, Vaughn, Hughes, & Moody, 1999; Rohrbeck, Ginsburg-Block, Fantuzzo, & Miller, 2003); however, systematic reviews examining the effects of peer-mediated interventions on the academic outcomes of secondary students indicate that it is at least moderately effective for students with or at risk for LD (e.g., Bowman-Perrott et al., 2013; Kunsch, Jitendra, & Sood, 2007; Okilwa & Shelby, 2010; Wexler et al., 2015).

Kunsch et al. (2007) reviewed 17 studies published between 1978-2006 that investigated the effectiveness of peer-mediated learning on the mathematics performance of students in grades K-12 identified with or at-risk for LD. Only three studies were conducted with students in grades 6-12. Effects were positive, but not as robust as those for studies that were implemented with elementary students.

Stenhoff and Lignugaris/Kraft (2007) reviewed 20 studies published between 1980 and 2005 that investigated peer tutoring interventions for students with mild disabilities in grades 7-12 in general and special education classrooms and also one correctional facility school. Eleven of these studies included students with LD. They reported that peer tutoring in secondary settings resulted in improved academic performance of students with mild disabilities, and found larger effects for interventions that included a tutor-training component.

Okilwa and Shelby (2010) reviewed 12 studies published between 1997 and 2007 that investigated the effects of peer tutoring on academic

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FIGURE 2: PEER PAIRING RESOURCES

WEBSITES

Paired reading information: https://www.tes.co.uk/article.aspx?storyCode=6339142

IRIS Module on Peer-Assisted Learning Strategies (PALS) for high school: http://iris.peabody.vanderbilt.edu/module/palshs/

READINGS

Jones, L. (2007). The student-centered classroom. New York, NY: Cambridge University Press. Retrieved from http://www.cambridge.org/other_files/downloads/esl/booklets/Jones-Student-Centered.pdf

Wexler, J. A., Reed, D. K., Mitchell, M., Doyle, B., & Clancy, E. (2015). Implementing an evidence-based instructional routine to enhance comprehension of expository text. *Intervention in School and Clinic, 50,* 142-149. doi:10.1177/1053451214542042

OTHER RESOURCES

Planning sheet for pairing students: http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/docs/peer-support-peer-pairing.pdf

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performance of students with disabilities in grades 6-12. Eight of these studies included students with LD. Each of the 12 studies implemented peer tutoring in at least one core content area: English Language Arts, mathematics, science, and/or social studies. Authors reported that peer tutoring was effective at improving academic outcomes for students receiving special education services in both general education and special education settings, regardless of the content area being targeted.

Finally, Wexler et al. (2015) conducted a synthesis of studies of peer-mediated interventions for students in grades 6-12. Studies published between 2001-2012 targeting reading and math were included if researchers reported effects on at least one academic outcome measure. Findings revealed mostly moderate to large effects favoring peer mediation, particularly when implementing a peer-mediated feedback component. In addition, the authors indicated that such interventions had social validity among participating adolescents and teachers.

Overall, the findings from these syntheses align, indicating that peer-mediated instruction implemented with systematic procedures including some type of built-in feedback or teacher monitoring component is a generally effective practice for students with and at-risk for LD. However, it is important to keep in mind that peer-mediated instruction is a broad term that encompasses several formats. Teachers should consider the type of peer-mediated instruction when drawing conclusions about its effectiveness. For example, in the synthesis by Wexler et al. (2015), only two of the studies implemented Collaborative Strategic Reading while four of the studies implemented CWPT procedures. There is more limited evidence for individual types or formats of peer mediation.

It is also important to consider the scientific rigor of studies in the evidence base. Wexler et al. (2015) examined the studies in their synthesis in relation to the quality indicators and standards set forth by Gersten et al. (2005), Horner et al. (2005), and the What Works Clearinghouse (WWC; 2010). Half of the 10 studies employing a group design met all accepted quality indicators for experimental and quasi-experimental research (Gersten et al., 2005; WWC, 2010), and the remaining five studies met all but one or two indicators. Only one of three studies using single-case designs met all of Horner et al.'s quality indicators, and none met all of the quality indicators set forth by the WWC (Kratochwill et al., 2013). This decreases our confidence in conclusions that may be drawn from the single-case studies of peer mediation.

How Practical Is It?

Teachers can use many different formats to implement peer-mediated instruction, making it a flexible approach for helping students learn content. It can be used across grade levels and content areas with slight adaptations to the materials and procedures. Usually students who are taught the procedures in one content area will be able to apply them to similar peer-mediation activities implemented in other classes. It is also a practical option for heterogeneous general education classes where it otherwise might be difficult for teachers to provide the amount of practice or feedback that working with a peer under a structured protocol affords. In addition, many resources provide support for teachers who may want to implement this practice *(see Figures 1 and 2 for examples)*. Finally, peer-mediated instruction does not necessarily rely on buying some type of program or extra materials; teachers can implement this type of instruction at a low cost.

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FIGURE 3: RESOURCES FOR COLLABORATIVE STRATEGIC READING

WEBSITES

CSR Colorado: toolkit.csrcolorado.org

IRIS Module: http://iris.peabody.vanderbilt.edu/module/csr/

READINGS

Vaughn, S., Roberts, G., Klingner, J. K., Swanson, E. A., Boardman, A., Stillman-Spisak, S. J., Leroux, A. J. (2013). Collaborative strategic reading: Findings from experienced implementers. *Journal of Research on Educational Effectiveness, 6,* 137–163. doi:10.1080/19345747.2012.741661

Klingner, J. K., Vaughn, S., Boardman, A. G., & Swanson, E. A. (2012). *Now we get it! Boosting comprehension with collaborative strategic reading.* San Francisco, CA: John Wiley & Sons.

OTHER RESOURCES

Cue cards for student roles:
http://adolescentliteracyconsiderationpacket.pbworks.com/f/csr_11_LINK_cueCards%5B1%5D.pdf

Clunk cards:
http://adolescentliteracyconsiderationpacket.pbworks.com/f/csr_11_LINK_clunkCards%5B1%5D.pdf

Learning log template:
http://adolescentliteracyconsiderationpacket.pbworks.com/f/csr_04_LINK_learningLog%5B1%5D.pdf

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What Questions Remain?

Despite the generally positive research base supporting peer-mediated instruction, several questions remain. There is more evidence of effectiveness at the elementary level than at the secondary level. Studies suggest that peer-mediated instruction is generally effective for adolescents with or at-risk for LD, but there is less evidence about particular formats or types of peer mediation. More rigorous research is needed regarding the generalizability of peer-mediated intervention to all content areas, particularly mathematics. Many of the interventions in the extant literature were conducted using researcher-developed measures, so it would be beneficial to use standardized measures in future research to improve the generalizability of effects. Finally, it may be beneficial to investigate additional factors that are important when pairing students (e.g., procedures based on students' behavior) to increase engagement and performance among secondary students with or at-risk for LD.

GO for it

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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.

Each *Alerts* issue focuses on a single practice or family of practices that is widely used or discussed in the LD field. The *Alert* describes the target practice and provides a critical overview of the existing data regarding its effectiveness for individuals with learning disabilities. Practices judged by the Alerts Editorial Committee to be well validated and reliably used are featured under the rubric of **Go For It**. Those practices judged to have insufficient evidence of effectiveness are featured as **Use Caution**.

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