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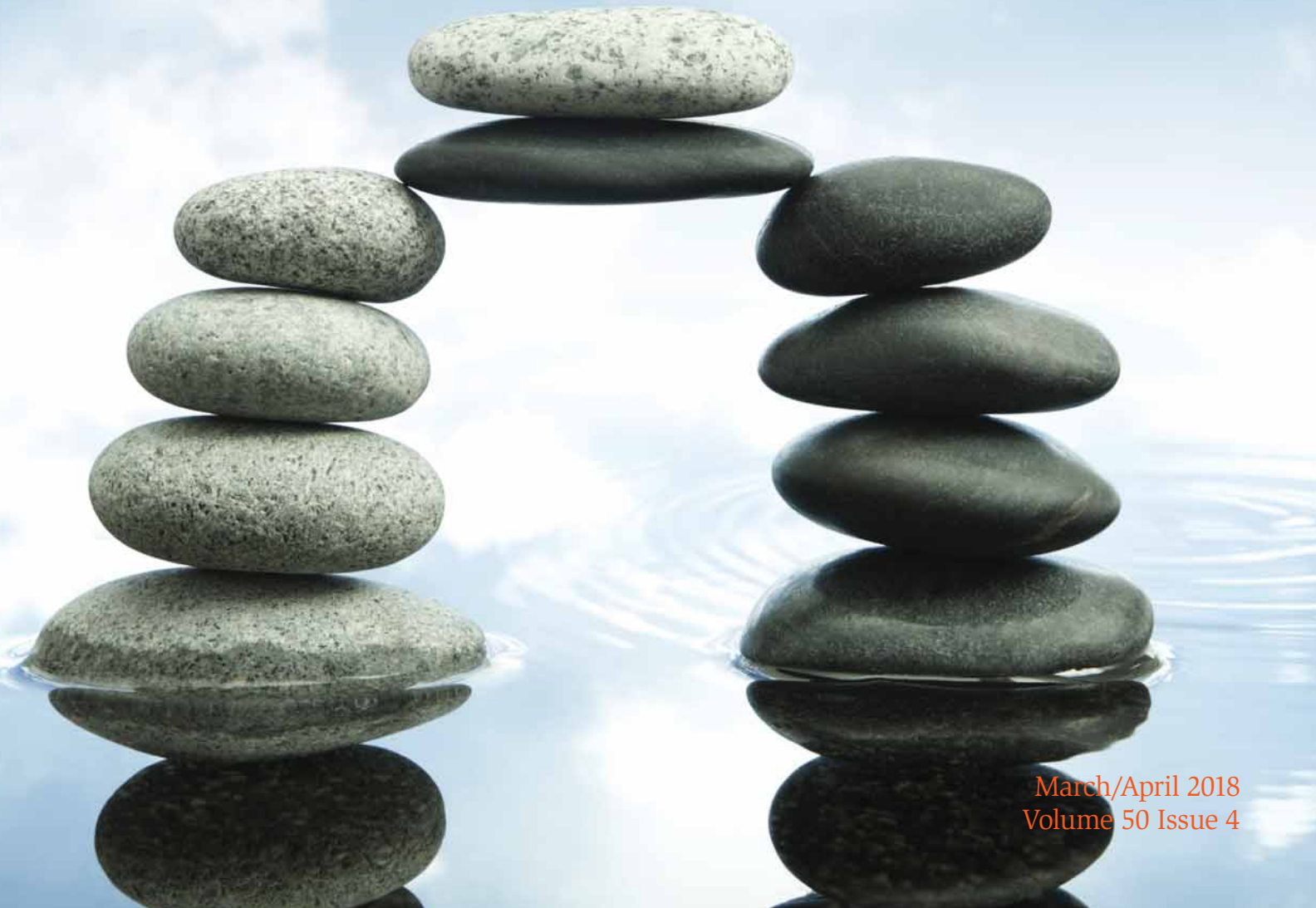

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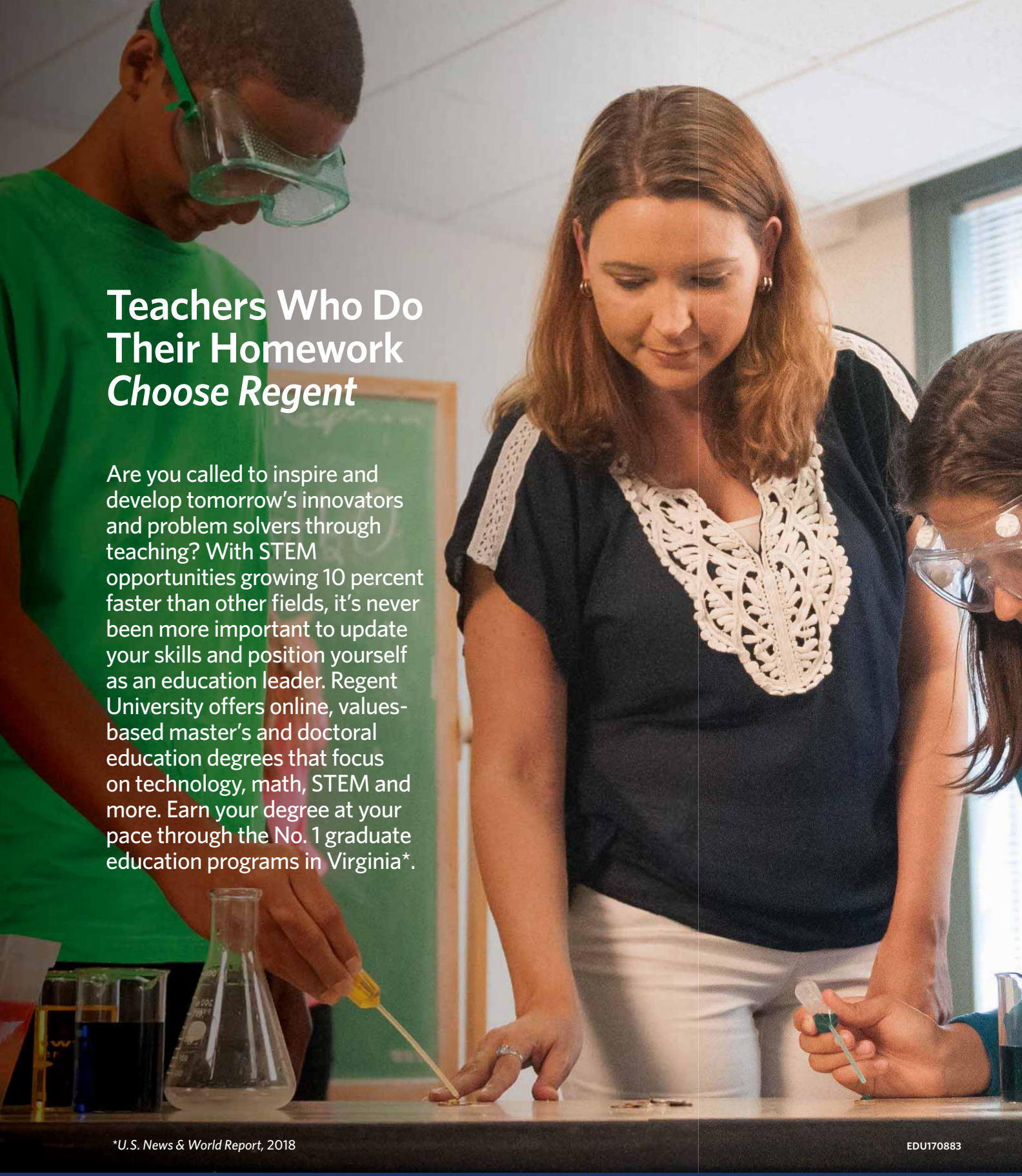

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**Sunday, July 8, 2018**

| | |
|---|---|
| 3:00 - 7:00 PM | Opening Session<br>■ Welcome & Introductions<br>■ State Teams and Talking Points<br>■ Strategies & Logistics for Hill Visits |

**Monday, July 9, 2018**

| | |
|---|---|
| 7:00 – 8:00 AM | Breakfast |
| 8:00 – 9:00 AM | General Session |
| 9:15 – 10:15 AM | Concurrent sessions: Issue briefings |
| 10:30 – 11:30 AM | Concurrent sessions: Issue briefings |
| 11:45 AM – 12:45 PM | Concurrent sessions: Issue briefings |
| 12:45 - 1:30 PM | Lunch |
| 1:30 – 2:30 PM | General Session |
| 2:45 – 5:00 PM | State Team Meetings |
| 5:30 – 7:00 PM | Partner Organization Reception |

**Tuesday, July 10, 2018**

| | |
|---|---|
| 6:30 AM | Shuttles depart for Capitol Hill |
| 8:00 – 8:30 AM | Breakfast |
| 8:30 – 9:30 AM | Congressional Briefing |
| 9:45 AM – 5:00 PM | Visits with Senate and House of Representative Offices |
| 7:30 – 9:30 PM | Social Activity |

**Wednesday, July 11, 2018**

| | |
|---|---|
| 7:30 – 8:30 AM | Breakfast |
| 8:30 – 9:30 AM | What we learned on Capitol Hill? |
| 9:30 – 10:30 AM | The "Ground Game" – State Team planning to take it back to your community |
| 10:45 - 11:45 AM | Effective Advocacy Through Social Media: Tweets, Facebook, Pinterest, Instagram and more |
| 11:45 AM – 12:00 PM | Closing Remarks |

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*TEACHING Exceptional Children*, an official journal of the Council for Exceptional Children, is specifically for teachers of children with disabilities and children who are gifted. Articles that provide information about practical methods and materials for classroom use are featured. This journal welcomes submissions that relate to evidence-based techniques, equipment, and procedures for teacher application with students with exceptionalities. In addition, the editor welcomes comments or views from the field as well as letters to the editor from the readership.

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*TEACHING EXCEPTIONAL CHILDREN*
VOL. 50 NO. 4, MARCH/APRIL 2018

## Features

# Putting High-Leverage Practices Into Practice

Kristin L. Sayeski, Editor

TEACHING Exceptional Children, Vol. 50, No. 4, pp. 169–171. Copyright 2018 The Author(s). DOI: 10.1177/0040059918755021

The publication of *High-Leverage Practices in Special Education* (McLeskey et al., 2017) reflected the culmination of an initiative that began in the fall of 2014. Spearheaded by the Council for Exceptional Children (CEC) Board of Directors and Professional Standards and Practice Committee (PSPC), the purpose of the high-leverage practices (HLP) initiative was to codify foundational practices of effective special educators. The CEEDAR (Collaboration for Effective Educator Development, Accountability, and Reform) Center at the University of Florida, funded by the Office of Special Education Programs of the U.S. Department of Education, provided subaward funding to CEC to support the initiative. The HLP writing team included representatives from the CEEDAR Center, CEC's PSPC, the Teacher Education Division of CEC, the Council of State School Officers, CEC staff, and CEC membership. Upon conclusion of an iterative process of identification, feedback solicitation, and prioritization, 22 HLPs, organized within four core areas of practice—collaboration, assessment, social-emotional-behavioral practices, and instruction—were identified. This finalized list of HLPs signified the answer to the question, "What are essential practices of effective special educators?"

Ultimately, however, the aim of the HLP initiative was not simply to create a list of practices but to inform, shape, and begin a dialogue about effective special educator development. Knowing that skills do not develop in isolation and that ample practice is essential for skill acquisition, generalization, and long-term adoption, the HLP writing team intended the HLPs to serve as a road map for those engaged in teacher preparation and professional development. Thus, HLPs reflect "the most essential dimensions of effective practice" (McLeskey et al., 2017, p. 9). HLPs narrow the focus of preparation and challenge teacher educators to create opportunities for teacher candidates to learn, apply, and receive feedback on these key practices. For those who design or deliver professional development for practicing educators, evaluation of teachers' current levels of HLP implementation can provide useful information for planning targeted professional development support. For practicing educators, self-assessment of HLP application can highlight areas of strength and opportunities for growth.

For this special issue, we identified nine recently published articles that reflect and embody specific HLPs. The articles align with the four core areas of collaboration ($n$ = 2), assessment ($n$ = 1), social-emotional-behavioral practices ($n$ = 2), and instruction ($n$ = 4; see Table 1). Although many articles published in *TEACHING Exceptional Children* (*TEC*) could have been selected, our intention was to select a sample of articles that can serve as a springboard for discussion and instruction related to the provision of "how-to" guidance.

For collaboration, two articles were selected. In the first article, Rossetti, Sauer, Bui, and Ou (2017) offer recommendations for how to facilitate culturally responsive individualized education program (IEP) meetings. This article highlights specific skills related to HLP2, such as the capacity to lead meetings that encourage consensus building, to create opportunities for multiple perspectives, and to demonstrate features of effective communication. In the second article, Chai and Lieberman-Betz (2016) apply a family-centered approach to

**Table 1. Alignment of High-Leverage Practices (HLPs) and Select *TEACHING Exceptional Children* (*TEC*) Articles**

| HLPs | *TEC* articles |
|---|---|
| Collaboration | |
| HLP1: Collaborate with professionals to increase student success.<br>HLP2: Organize and facilitate effective meetings with professionals and families.<br>HLP3: Collaborate with families to support student learning and secure needed services. | • HLP2: "Developing Collaborative Partnerships With Culturally and Linguistically Diverse Families During the IEP Process" (Rossetti, Sauer, Bui, & Ou, 2017)<br>• HLP3: "Strategies for Helping Parents of Young Children Address Challenging Behaviors in the Home" (Chai & Lieberman-Betz, 2016) |
| Assessment | |
| HLP4: Use multiple sources of information to develop a comprehensive understanding of a student's strengths and needs.<br>HLP5: Interpret and communicate assessment information with stakeholders to collaboratively design and implement educational programs.<br>HLP6: Use student assessment data, analyze instructional practices, and make necessary adjustments that improve student outcomes. | • HLP6: "The Taxonomy of Intervention Intensity" (Fuchs, Fuchs, & Malone, 2017) |
| Social-emotional-behavioral practices | |
| HLP7: Establish a consistent, organized, and respectful learning environment.<br>HLP8: Provide positive and constructive feedback to guide students' learning and behavior.<br>HLP9: Teach social behaviors.<br>HLP10: Conduct functional behavioral assessments to develop individual student behavior support plans. | • HLP7: "Teacher-Provided Positive Attending to Improve Student Behavior: A Brief Guide" (Perle, 2016)<br>• HLP8: "Designing and Implementing Group Contingencies in the Classroom: A Teacher's Guide" (Chow & Gilmour, 2016) |
| Instruction | |
| HLP11: Identify and prioritize long- and short-term learning goals.<br>HLP12: Systematically design instruction toward a specific learning goal.<br>HLP13: Adapt curriculum tasks and materials for specific learning goals.<br>HLP14: Teach cognitive and metacognitive strategies to support learning and independence.<br>HLP15: Provide scaffolded supports.<br>HLP16: Use explicit instruction. | • HLP11: "10 Research-Based Tips for Enhancing Literacy Instruction for Children and Adolescents With Intellectual Disability" (Lemons, Allor, Al Otaiba, & LeJeune, 2016)<br>• HLP14: "FIX: A Strategic Approach to Writing and Revision for Students With Learning Disabilities" (Sherman & De La Paz, 2015)<br>• HLP15: "Whole-Group Response Strategies to Promote Student Engagement in Inclusive Classrooms" (Nagro, Hooks, Fraser, & Cornelius, 2016)<br>• HLP16: "Using Explicit and Systematic Instruction to Support Working Memory" (Smith, Sáez, & Doabler, 2016) |

collaborating with families (HLP3). Chai and Lieberman-Betz provide step-by-step guidance for how to consider families' background, language, culture, and priorities when teaching families how to support their children's behavior outside of school.

Next, for assessment, Fuchs, Fuchs, and Malone (2017) address the individualization of instruction. In the article, Fuchs et al. walk readers through a process of how to analyze and select appropriate instructional platforms and use data to make necessary adjustments to increase the intensity of instruction in order to improve student outcomes (HLP6). The taxonomy provides a framework teachers can use to "validate reasoned hypotheses about salient instructional features and enhance instructional decision making" (McLeskey et al., 2017, p. 20).

Under the area of social-emotional-behavioral practice, Perle's (2016) article on the power of positive attending reflects HLP7—the practice of establishing a consistent, organized, and respectful learning environment. Research has consistently demonstrated the utility of behavior-specific praise for reducing undesired behaviors and increasing engagement. In his article, Perle provides explicit instruction on

how to deliver effective positive attending. In the second article, Chow and Gilmour (2016) provide guidance for setting up and implementing group contingencies. The strategic implementation of group contingencies allows teachers to provide immediate feedback to students that can result in increased student motivation, engagement, and independence (HLP8).

For the final core area of instruction, four articles were selected. First, in Lemons, Allor, Al Otaiba, and LeJeune's (2016) article on delivering effective literacy instruction for students with intellectual disability, they provide an instructional planning tool to help educators identify and prioritize learning goals (HLP11). Next, Sherman and De La Paz (2015) offer guidance related to instruction on the FIX strategy, a metacognitive routine taught to students to help them manage the revision process. As an example of HLP14—teaching of cognitive and metacognitive strategies to support learning and independence—Sherman and De La Paz's guidance reflects not only the strategy but also how to teach the strategy using the self-regulated strategy development framework. For HLP15—provide scaffolded supports—Nagro, Hooks, Fraser, and Cornelius (2016) delineate specific guidelines for checking for understanding and responding to student need. Specifically, Nagro et al. describe a variety of whole-group response techniques, such as hand signals, response cards, and written responses, that can be used to calibrate instruction in relation to students' current levels of understanding. Finally, Smith, Sáez, and Doabler (2016) present readers with several examples of how to apply the explicit cycle of instruction (HLP16) to provide support for students' limitations in working memory.

The goal of the HLP initiative was to sharpen the focus on the "practice" of effective special educators. The task of teacher educators and professional development providers is to take these practices and create meaningful opportunities for learning how to master these skills within the context of teaching students with exceptionalities. Learning requires not only opportunities for practice but also modeling, feedback, and adjustment. Articles published in *TEC* can provide excellent guidance related to HLPs; however, the strong implementation of HLPs is dependent upon those charged with teacher development to create meaningful opportunities to practice them.

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# Developing Collaborative Partnerships With Culturally and Linguistically Diverse Families During the IEP Process

Zachary Rossetti, Janet Story Sauer, Oanh Bui, and Susan Ou

This article is a reprint. A full reference to the original work is as follows: Rossetti, Z., Sauer, J. S., Bui, O., & Ou, S. (2017). Developing collaborative partnerships with culturally and linguistically diverse families during the IEP process. *TEACHING Exceptional Children*, *49*, 328-338. doi: 10.1177/0040059916680103

*Meagan, an undergraduate teacher candidate studying special education, volunteered to take notes in an individualized education program (IEP) meeting for a recently immigrated Chinese family whose child was diagnosed with disabilities. Meagan's professor had been contacted by a cultural outreach coordinator from the local urban Parent Training and Information Center (PTI) for someone who could "simply take notes" for the family; the district had already scheduled an interpreter. Meagan later told her professor that the meeting seemed well organized and conducive to what she had learned in class as illustrative of effective collaboration. Meagan reported that the mother "was knowledgeable about her rights and her son," and she seemed to adopt the Western role of parent advocate. The family had received a translated copy of assessment results and a tentative agenda from the school beforehand. During the meeting, the parents were asked questions about what was important to them and what they thought about the possible recommendation options offered by school personnel to support their child. Meagan felt she had learned a lot from the direct experience and was happy to be of help to the family.*

*Then Meagan was asked by the interpreter if she would take notes for another IEP meeting scheduled at a nearby school with a different family. She agreed. This meeting also involved an immigrant family; the parents spoke little and they relied heavily on having an interpreter. But there had been miscommunication about the language needed; the interpreter could speak Cantonese and Mandarin but the family's home language was Vietnamese. The mother could understand Cantonese so the interpreter used it, but that excluded the father, who could not understand Cantonese. There was a district-appointed advocate for the family, and Meagan later described the meeting as adversarial and very tense, ending "with no compromises or solutions." The idiosyncratic language and the fast pace of the conversation, along with the time it took for the live language interpretation, seemed to contribute to the tension. Meagan was troubled that the parents appeared discouraged because their concerns were not addressed before the school personnel indicated the meeting time was up and the teachers had to return to their classrooms. Although the parents had requested the forms be translated into their native Vietnamese and sent to them, the school personnel said they did not have the resources to comply. Meagan wondered, "How could these two IEP meetings be so different?"*

Unfortunately, many teachers might have experiences more like Meagan's second IEP meeting than her first. Although there has been a consistent vision for multicultural education and family collaboration in teacher preparation programs for decades, collaborative partnerships between culturally and linguistically diverse (CLD) families and their children's educators remain elusive (Harry, 2008; Trent, Kea, & Oh, 2008). (Following Wolfe and Duran, 2013, we define CLD families in the United States as those whose primary language is not English or who are not European American. We also use *family* to include a guardian or extended family member who represents the student as part of the IEP.)

Some teachers may not even realize that families with whom they work feel frustrated with what they perceive as ineffective and culturally insensitive IEP meetings. However, many teachers recognize a sense of disconnect between schools and CLD families and are seeking ways to improve these relationships.

Family engagement in special education has been federally mandated for 40 years, since Public Law 94-142 was passed in 1975 and later reauthorized as the Individuals With Disabilities Education Act (IDEA, 2006). In fact, IDEA emphasizes family engagement in children's education as a crucial element in improving the effectiveness of special education programs (Turnbull, Turnbull, Erwin, Soodak, & Shogren, 2011). Indeed, family engagement is related to positive student outcomes in special education (Newman, 2004; Ryndak, Alper, Hughes, & McDonnell, 2012). However, many families have indicated a lack of collaboration during the IEP process and have frequently felt that they must fight for services for their children (Blackwell & Rossetti, 2014; Resch et al., 2010; Turnbull et al., 2011).

The difficulties experienced while interacting with the special education system can be even more prevalent for CLD families because they do not typically experience collaborative partnerships with their children's school professionals (Fults & Harry, 2012; Harry, 2008; Olivos, Gallagher, & Aguilar, 2010). Schools often present several barriers to collaboration with CLD families, including a lack of cultural responsiveness, inappropriate accommodations related to language, insufficient information about team meetings, little respect for familial expertise and contributions, and deficit views of families and children (Harry, 2008; Wolfe & Duran, 2013). In studies of IEP participation, CLD families attended most meetings but were not provided opportunities to contribute due to hierarchical interactions with school personnel and marginalization of families by school personnel (Blackwell & Rossetti, 2014; Wagner, Newman, Cameto, Javitz, & Valdes, 2012). IEPs and parents' rights documents have frequently been written in ways that are difficult to understand (Fitzgerald & Watkins, 2006; Lo, 2014). Assessment results and other materials have not been routinely translated in time for IEP meetings, and skilled interpreters experienced in special education have not been consistently provided at IEP meetings despite being federally mandated (Lo, 2012; Wolfe & Duran, 2013).

Without family engagement in special education, CLD students can be vulnerable to lesser quality and more segregated education programs as well as faulty diagnostic processes (Gay, 2002; Harry, 2008). Moreover,

even as today's public schools continue to become more diverse, the majority of preservice teachers are still from White, middle-class backgrounds; this dynamic can result in a cultural divide in which teachers subsequently hold deficit views and lower expectations for CLD students (Castro, 2010; Sleeter & Owuor, 2011). We contend that positive outcomes for CLD students can be achieved and this divide can be bridged when schools and families engage in culturally responsive collaborative partnerships (Blue-Banning, Summers, Frankland, Nelson, & Beegle, 2004; Gay, 2002; Haines, Gross, Blue-Banning, Francis, & Turnbull, 2015; Harry, 2008). As Fults and Harry (2012) explained, "in a multicultural world, it is not possible to be family centered without being culturally responsive" (p. 28).

The lack of culturally responsive collaborative partnerships is commonly attributed to ethnocentric assumptions about CLD families by teachers from majority-cultural backgrounds, and this may be a factor in some situations (Harry, 2008; Wolfe & Duran, 2013). However, many teachers understand the importance of CLD family engagement in children's educational programs and work to support it (Trainor, 2010). It is important to acknowledge that effective collaboration can be difficult and complex with the necessary individualization based on each family's strengths, needs, and experiences. In our view, the persistence of this problem is in part due to how difficult an undertaking this work is, especially with the competing demands of the profession in teachers' daily work. That said, teachers in American public schools are increasingly working with CLD students, many of whom are immigrants or children of immigrant families. Thus, our focus here is to support teachers as they ask, "What can I do to improve my relationships with my students' families?"

In this article, we offer research-based strategies for teachers who seek to improve their relationships with CLD families who have children served by special education. The guidelines are organized around three guiding questions (see Table 1) intended to scaffold the development of an action plan for improving culturally responsive collaborative partnerships with CLD families during the IEP process (see Tables 2 and 3 for examples). We caution readers against making generalizations about various cultural or linguistic groups because within each "group," there are inevitably nuances and individuals who may adopt or reject norms.

## How Culturally Responsive Am I?

*Cultural responsiveness* refers to teachers' self-awareness related to culture and their understanding of and respect for the CLD family's experiences and background (Turnbull et al., 2011). To bring about change in culturally responsive collaboration, teachers should begin by examining their own cultural beliefs and experiences (Harry, 2008). Then, teachers can identify the culturally responsive habits they practice and how frequently they engage in them. Teachers are the constant in this

**To bring about change in culturally responsive collaboration, teachers should begin by examining their own cultural beliefs and experiences.**

**Table 1. Guiding Questions for Developing Collaborative Partnerships With CLD Families**

| Guiding question | Purpose |
|---|---|
| How culturally responsive am I? | • Self-reflect on cultural beliefs and experiences.<br>• Develop or increase cultural consciousness.<br>• Identify areas of improvement in culturally responsive practices. |
| Who is this family? | • Gain knowledge about the family's language and culture.<br>• Learn about the family's perceptions of disability and goals for the child.<br>• Convey to the family members that you want to get to know them. |
| Have we developed a collaborative partnership?<br>Communication<br>Commitment<br>Equality<br>Professional competence<br>Mutual trust<br>Mutual respect | • Assess current relationship and quality of IEP meetings with the family.<br>• Identify areas of improvement in culturally responsive collaborative partnerships with the family.<br>• Enact practices promoting culturally responsive collaborative partnerships with the family during the IEP process (i.e., IEP meetings and interactions between IEP meetings). |

*Note.* CLD = culturally and linguistically diverse; IEP = individualized education program.

**Table 2. Action Plan for Developing Collaborative Partnerships with CLD Families: Example 1**

| Guiding question | Purpose | Example |
|---|---|---|
| How culturally responsive am I? | • Self-reflect on cultural beliefs and experiences.<br>• Identify areas of improvement in culturally responsive practices. | I took the Georgetown survey[a] and noticed I was hesitant about answering some questions. Upon reflection, I think I could improve my understanding about various cultures. In particular, I could focus on improving my communication with Robbie's[b] family. |
| Who is this family? | • Gain knowledge about the family's language and culture.<br>• Convey to the family members that you want to get to know them. | In the home language survey I learned that while Robbie's family understands English and watches some television in English, the parents speak Cantonese at home with each other.<br>I plan to attend a local Tet New Year celebration. I will also read about the historical relationship between Vietnam and China. |
| Have we developed a collaborative partnership? | • Assess current relationship and quality of IEP meetings with the family.<br>• Enact practices promoting culturally responsive collaborative partnerships with the family during the IEP process (i.e., IEP meetings and interactions between IEP meetings). | I found out from a colleague that translated materials and live language interpretation were not provided at Robbie's IEP meetings last year.<br>I will find out from our local Chinese cultural broker how to organize a Cantonese interpreter for the next IEP meeting. I will ask that the invitation, parents' rights document, and the assessment results be translated into Cantonese one week prior to our IEP meeting. |

*Note*. CLD = culturally and linguistically diverse; IEP = individualized education program.
[a]There are several resources on the Georgetown University website for promoting cultural diversity and cultural competency, including the Self-Assessment Checklist (Goode, 2004) referenced in this example. [b]Robbie is the American name this Southeast Asian family gave to the son to "make it easier for the teachers to pronounce." His given name is Bingwen.

equation because families, like students, will change each year.

There may be barriers to collaboration that are outside of a teacher's control. What teachers *can* do is examine their own culturally responsive practices for improvement. Thus, the essential first step is to self-assess and reflect (Siwatu, 2007). The National Center for Cultural Competence at Georgetown University (n.d.) provides numerous resources for self-assessment.

On the basis of the self-reflection, teachers can become more conscious of the role of culture in their own and others' lives (Harry, 2008). With increased cultural consciousness, teachers can begin to enact interactions that reflect the concept of *cultural humility*. Cultural humility is an ongoing orientation toward others rather than oneself in which one is able to "overcome the natural tendency to view one's own beliefs, values, and worldview as superior, and instead be open to the beliefs, values, and worldview of the [CLD parent]" (Hook, Davis, Owen, Worthington, & Utsey, 2013, p. 354). In practice, this means avoiding assumptions about a family's motives or capabilities and instead trying to understand the family's experiences and perspectives. In other words, teachers should withhold snap judgments of CLD families. For example, the parent who has not attended a meeting may need child care to do so or may need alternative options to a meeting during school hours due to limited ability to miss work. The parent who has not returned any calls or e-mails may work multiple jobs during second and third shifts. The outcome of this self-reflection should be to identify at least one area of culturally responsive practice for attention and improvement.

## Who Is This Family?

The emphasis of this question is being purposeful and proactive in getting to know the family. First, because it is essential to CLD families' engagement,

**Table 3. Action Plan for Developing Collaborative Partnerships With CLD Families: Example 2**

| Guiding question | Purpose | Example |
|---|---|---|
| How culturally responsive am I? | • Self-reflect on cultural beliefs and experiences.<br>• Identify areas of improvement in culturally responsive practices. | I took the Georgetown survey[a] and noticed I could improve by attending to our classroom's physical environment, materials, and resources to be more representative of my student from India. I will also try to incorporate some of the family's cultural values into classroom routines. |
| Who is this family? | • Gain knowledge about the family's language and culture.<br>• Convey to the family members that you want to get to know them. | I examined a language map of India[b] and learned that although Hindi is the official national language, there are many other distinct languages of India.<br>My student Chanda's name means "moon" in Sanskrit. I found out from an informal interest inventory that Chanda dances in the north Indian tradition.<br>I plan to watch videos about this form of dance and ask her family if I could be invited to attend one of her performances. |
| Have we developed a collaborative partnership? | • Assess current relationship and quality of IEP meetings with the family.<br>• Enact practices promoting culturally responsive collaborative partnerships with the family during the IEP process (i.e., IEP meetings and interactions between IEP meetings). | During my historical review of Chanda's IEP, I learned that the family stopped speaking Hindi at home when Chanda was young because they thought it was interfering with her English language development. Recently, Chanda and her siblings began tutoring in Hindi. I plan to ask the SLP and the family how I might support Chanda's bilingual language development. |

*Note*. CLD = culturally and linguistically diverse; IEP = individualized education program; SLP = speech language pathologist.
[a]There are several resources on the Georgetown University website for promoting cultural diversity and cultural competency, including the Self-Assessment Checklist (Goode, 2004) referenced in this example. [b]See Maps of India (http://www.mapsofindia.com/culture/indian-languages.html), and the International Linguistics Community website, The Linguist List (http://linguistlist.org/forms/langs/get-language-by-country.cfm?country=23).

teachers should learn about the family's language preferences and needs. Specifically, teachers should identify the CLD family's native language, dominant language, and the primary language spoken at home. Many U.S. teachers assume that most families have one primary language; however, in many countries—and families—multilingualism is the norm (Turnbull et al., 2011). A parent's first language could be an indigenous language of his or her country of birth (e.g., Canela in Brazil), but the parent may be fluent in a dominant language (e.g., Brazilian Portuguese), which may or may not be the language he or she speaks at home (e.g., the parent may also speak some English or Spanish). Understanding the family's proficiency in English is also important. Another consideration to address is whether the family's language use changes with context. For example, some CLD parents may be proficient in English but still prefer interpretation in their native language during IEP meetings due to difficulties understanding technical terms and processing important information related to their children's educational programs (Larocque, Kleiman, & Darling, 2011; Wolfe & Duran, 2013).

Beyond learning about families' communication needs, teachers should learn about the individual strengths, needs, and nuances of each particular family just as is done with each individual student (Larocque et al., 2011; Turnbull et al., 2011). This is a

broad strategy that can be accomplished in many ways, but the outcome of this approach is for teachers to demonstrate intentionality in building relationships with CLD families (Harry, 2008). Initially, this means that teachers should show CLD families that they are interested in getting to know and working with them, such as welcoming CLD families to the IEP team, initiating conversations with them, and inviting their participation. Eventually, and within the relationship-building process, teachers should engage in purposeful and individualized efforts to encourage meaningful engagement in IEP meetings by CLD families (Rodriguez, Blatz, & Elbaum, 2014a).

In addition, teachers should learn about the family's expectations for the child with a disability and the reasons underlying these perspectives. CLD families may perceive teachers as unwilling to collaborate if teachers do not ask about and actively listen to their perspectives and goals for their children (Turnbull et al., 2011). For example, Hispanic mothers of transition-aged youth with autism spectrum disorder, intellectual disability, or multiple disabilities described experiencing conflicts with teachers when trying to develop meaningful and culturally responsive transition goals (Shogren, 2012). The teachers focused on improving the student's ability to perform functional skills independently, which they viewed as essential for self-determination. However, the families did not view this as an important goal for their children. Rather than discussing this and possible concerns with families, the teachers insisted on their goals as written and thought families' opposition was due to low expectations for their children. By assuming the families' motives, they did not realize that the families were actually guided by their cultural valuing of family interdependence over an individual's independence (Shogren, 2012).

Teachers should schedule short discussions or administer a beginning-of-the-year survey (i.e., home language survey) with CLD families to learn about their language needs and preferences (deFur, 2012; Edwards & Da Fonte, 2012). Many states mandate a home language survey for all incoming students whose family's native language is not English. Some examples are available as models for teachers in districts that do not yet require this (e.g., Massachusetts Department of Elementary & Secondary Education, 2011; Vermont Agency of Education, 2014; Washington Office of Superintendent of Public Instruction, 2014.) These questions can be asked in conversations with CLD families.

In addition, teachers should ask families about their preferred meeting times and comfort level with the special education process. This conveys willingness to be flexible and supportive within the collaboration and helps teachers learn more about families. Based on the family's response, teachers could offer a variety of possible meeting times from which families could choose, as well as work with administrators or community agencies to offer special education training (e.g., workshops) to CLD families who need it (Larocque et al., 2011).

When possible, teachers should reach out to someone who can act as a *cultural broker* to learn about general linguistic and cultural practices of the CLD family. A cultural broker is a bilingual, bicultural advocate engaged in the purposeful act of connecting people of differing cultural backgrounds to reduce conflict and improve collaboration (Jezewski & Sotnik, 2001). This could be an English as a Second Language teacher or a cultural outreach coordinator from the local PTI. The cultural broker typically acts as a liaison, cultural guide, or mediator and can provide teachers with advice about interacting with CLD families or facilitate and interpret meetings with CLD families. Over time, teachers themselves can become cultural brokers as they learn more about CLD families' perspectives, experiences, and cultural history.

### Have We Developed a Collaborative Partnership?

The goal of developing a culturally responsive collaborative partnership with CLD families will manifest as the creation and maintenance of a harmonious environment during the IEP process. Based on all of the information gathered in response to the first two questions, teachers will be able to identify whether their IEP meetings more closely resemble Meagan's first or second meeting.

**Teachers should analyze the quality and quantity of interactions with CLD families between meetings to examine whether there is a reciprocal relationship and positive rapport with CLD families.**

Because collaborative partnerships require more than positive interactions during annual meetings, teachers should analyze the quality and quantity of interactions with CLD families between these meetings to examine whether there is a reciprocal relationship and positive rapport with CLD families.

Researchers have identified the dimensions of collaborative partnerships. After decades of studying the school and family dynamics in special education, Ferguson, Hanreddy, and Ferguson (2013) developed a strengths-based collaboration framework, suggesting "that we first seriously listen to families' accounts of their own experiences with both schools and disability" (p. 767). The largest study to date described six components of collaborative partnerships: (a) communication, (b) commitment, (c) equality, (d) professional competence, (e) mutual trust, and (f) mutual respect (Blue-Banning et al., 2004). We present

the remaining strategies within this structured framework because developing collaborative partnerships requires intentionality (deFur, 2012). These components of collaborative partnerships apply to all families, but the strategies focus specifically on developing collaborative partnerships with CLD families.

### Communication

Parents have reported desiring both frequent (quantity) and honest and open (quality) communication (Blue-Banning et al., 2004). Some indicators of desired communication included being tactful (e.g., respecting privacy, focusing on the positive in addition to the negatives), avoiding use of jargon, and providing information on resources for children to families. Parents have also insisted that communication should be reciprocal, especially emphasizing that educators listen to families (Haines et al., 2015).

CLD families require full language access to participate in conversations and meetings regarding their children's educational programs. Per federal guidance, "schools must communicate information to limited English proficient parents in a language they can understand about any program, service, or activity that is called to the attention of parents who are proficient in English" (U.S. Department of Justice & U.S. Department of Education, 2015, p. 1). This includes special education and related services, meetings to discuss special education, and parent–teacher conferences. Schools must provide language assistance if CLD families request it. Teachers should work with their teams to ensure that all written materials necessary for participation in IEP meetings are translated into the family's preferred language (Lo, 2012). Specifically, these should include progress reports and evaluation materials at least 2 days prior to the meeting, and meeting minutes and IEPs within 10 days following meetings.

Teachers should also work with their teams to ensure that a skilled interpreter attends all IEP meetings when the family's native language is not English. The interpreter should be a professional who is trained in the role of interpreter and translator, knowledgeable of special education policy and process, and independent of both the school and the family (Hart, Cheatham, & Jimenez-Silva, 2012; Wolfe & Duran, 2013). Although some families might speak English as the primary language at home they still may not be proficient in written English or may be unfamiliar with special education terminology (Larocque et al., 2011). Thus, those who speak English may still require an interpreter. In addition, within ethnic groups there can be subgroups that speak different dialects, and many of these are mutually unintelligible. In other words, the dialects are so different that those speaking one or the other cannot easily communicate. For example, a common dialect for many Chinese immigrants in the United States is Cantonese, which differs from Mandarin, a dialect from northern China chosen by the current central government to be used as the common language. Families may speak Cantonese, Mandarin, or both, and these distinctions should be known by teachers to appropriately accommodate each CLD family.

There are several strategies we recommend for teachers when there are difficulties providing translations and live interpretation, such as when the district does not have resources for a family's particular language (e.g., language may not be prevalent in district). Districts should have resources—or a plan to establish resources—for providing translated documents and live interpretation in at least the top five to 10 languages spoken by families in their community. Nationally, the top 10 languages spoken in CLD families' homes include Spanish (71%), Chinese (4%), Vietnamese (3%), French or Haitian Creole (3%), Arabic (2%), Korean (1%), Hebrew or Yiddish (1%), Filipino or Tagalog (1%), German (1%), and Hmong (1%) (Ruiz Soto, Hooker, & Batalova, 2015). The general approach is that teachers (and administrators) should seek out resources within their district and community to address these challenges. Some suggestions include the following:

- First, try to locate materials in your state or district that have already been translated.
- Train bilingual staff in your district or school to be translators and interpreters.
- Consult with nonprofit organizations and community stakeholders to assess how they provide language services and to access their services. For example, Found in Translation (http://www.found-in-translation.org) is a nonprofit organization in Massachusetts that trains low-income, bilingual women as interpreters.
- Look to local universities for students in language programs training to be translators and interpreters who need to fulfill practicum or clinical hours.
- Utilize telephone interpretation services.
- Collaborate with other community agencies (e.g., PTI) that have bilingual staff to help with translations or to identify bilingual community members who may help with translations or be trained as an interpreter.

In addition, companies, such as eSTAR (https://www.esped.com), provide translation services for IEPs. We do not recommend using computer or online translators as they tend to be imperfect.

Beyond translations and live interpretation during meetings, teachers should ask CLD families their preferences for communication between meetings or offer them a variety of options from which they can choose. School-to-home notebooks may not be the most effective tools for communicating with CLD families because of possible misinterpretations due to language proficiency and technical-language use (Davern, 2004). Speaking in person may be more

effective as it can limit misunderstandings that may occur with written text (Larocque et al., 2011; Lo, 2012). However, some families may have a preference for written communication due to a relative strength in English grammar and reading compared to spoken communication even though they may be proficient in English (Sohn & Wang, 2006).

### Commitment

Parents have reported that they want to see evidence that their children's educators are dedicated to families and children because such a commitment would indicate that they are driven by more than just their job requirements (Blue-Banning et al., 2004). Educators should convey that they value and recognize the importance of their relationships with families and think of them as people rather than as cases. Again, this helps build relationships with CLD families.

To convey commitment to CLD families, teachers should demonstrate through explicit statements and actions that their focus is on the best interests of the child (Haines et al., 2015). One way to do this is to maintain high expectations for the learning potential of the child (Larocque et al., 2011). Another is to regularly communicate the child's progress and other positive experiences to families, rather than only problems (Rodriguez, Blatz, & Elbaum, 2014b). Because CLD families, like all families, want their children to be successful, teachers could also advocate on behalf of the family for specific services or types of service delivery appropriate for their child (Resch et al., 2010).

To show commitment to CLD families, teachers can volunteer at or attend local cultural events with the family, or they can visit a local gathering place (e.g., barbershop or hair salon, place of worship, grocery store) for families from the same cultural or linguistic group to learn more about the family's culture (Edwards & Da Fonte, 2012). During IEP meetings, teachers can demonstrate commitment to CLD families by sitting next to rather than across from them (Rodriguez et al., 2014b).

### Equality

Parents have reported that they value an overall sense of harmony in meetings and interactions with educators (Blue-Banning et al., 2004). A sense of harmony can be manifested by equality in decision making, acknowledgement of parents' point of view, and encouragement of parents to participate. This component of collaborative partnerships reflects the importance that educators recognize the strengths and familial expertise of CLD families and support them to be fully contributing members of the IEP team (Turnbull et al., 2011).

Some CLD families may not yet understand the level of family engagement in IEP meetings expected in U.S. schools (Burke, 2013; Trainor, 2010). In order to engage meaningfully, CLD parents must know that they can (and should) participate and what that entails. Teachers are uniquely positioned to explicitly explain the importance of IEPs and the expectation of family advocacy during the IEP process to families (Larocque et al., 2011; Rodriguez et al., 2014b). We recommend that the parents' rights document not only be translated in each family's preferred language but adapted to be written in everyday language (i.e., no technical language) and at a fifth-grade reading level (Lo, 2014; Rodriguez et al., 2014b). Teachers should discuss the document with CLD families.

Teachers should also ensure that CLD families understand the purpose of each meeting and have ample opportunity to contribute to it. As in Meagan's first meeting, one way to do this is to provide a draft of the agenda, including the expected participants' names and titles, and to ask the family members what else they want to address in advance of the meeting. Another way to solicit family input prior to the meeting is to conduct a pre-IEP interview focusing on the family members' comfort with procedures, their goals, and their concerns (Rodriguez et al., 2014b). Despite best intentions, asking families during the meeting what they want to address may cause anxiety and does not allow them enough time to consider their responses (Rodriguez et al., 2014b).

During the meeting, there are several strategies that promote equality in decision making. Teachers should write out agenda items being discussed on a large display to help support shared understanding (Lo, 2012). Teachers should also provide written translations of special education terminology and key vocabulary in the family's preferred language (e.g., a glossary) as well as avoid jargon as much as possible during the meeting (Larocque et al., 2011; Lo, 2014). Teachers can provide visual aids (e.g., examples of the child's work and that of a comparison peer when discussing the child's strengths and needs) to support understanding by CLD families (Larocque et al., 2011). Because interpreters need to translate everything that is said in a meeting, teachers should be sure to allot extra time for the meeting so the team process is not compromised by time constraints (Hart et al., 2012). Finally, teachers should track whether their meetings were more like the first or the second IEP meeting Meagan attended. To do this, teachers can pay close attention—and collect data, if possible—as to who initiates topics, how long various team members speak, and how decisions are made in order to identify opportunities for

Some CLD families may not yet understand the level of family engagement in IEP meetings expected in U.S. schools.

more equitable and meaningful engagement (Blackwell & Rossetti, 2014).

### Competence

Parents want to feel confident in the professional skills of their children's educators (Blue-Banning et al., 2004). This seems a universal expectation, but, within special education, it meant parents expected to see clear evidence of individualization based on the unique needs of their children. They also expected teachers to keep up to date with research-based practices and technology in the field, especially when beneficial to their children.

CLD families have reported wanting teachers to avoid taking a deficit view of disability and to understand the child's language needs (Wolfe & Duran, 2013). Thus, teachers should incorporate student strengths into instruction and discuss these with families rather than focusing only on the disability label or the student's deficits (Haines et al., 2015). Teachers should also develop a language profile for the student to understand and accommodate his or her language needs (Wolfe & Duran, 2013). Some of this information (i.e., the student's native language, dominant language, and primary language spoken at home) may come from the home language survey. The language profile should also include whether the student can follow instructions in English.

To demonstrate competence regarding research-based practices, teachers should explicitly explain instructional methods to families and clearly describe how services specifically meet students' needs rather than just presenting service options without any context (Rodriguez at al., 2014b). Doing so conveys not only individualization of services but also the teacher's understanding of special education instruction and policy. In fact, when teachers implement appropriate services and report student progress regularly, they may not have as many interactions with CLD families because they will be viewed as professionally competent by families (Rodriguez, Blatz, & Elbaum, 2014a).

### Trust

Parents reported that they desire mutual trust with their children's educators, and they indicated three components of this trust: (a) reliability of educators, (b) assurance that the child is treated with dignity and is safe from physical or emotional harm, and (c) discretion when dealing with confidential and personal information (Blue-Banning et al., 2004).

Extant research indicates that frequent communication and sharing of resources with families is crucial for developing trust in collaborative partnerships (Resch et al., 2010; Wolfe & Duran, 2013). Communication between teachers and CLD families may be enhanced when there is one teacher (usually the special education teacher or case manager) assigned as the contact person for each family (Rodriguez et al., 2014b). One invaluable resource to share with CLD families is the local PTI. (Every state has at least one PTI; see http://www.parentcenterhub.org/find-your-center.) At the PTI, CLD families can attend workshops on special education policy and practice, learn about their rights, and participate in support groups with other families who have a range of knowledge and experience to share with them (Burke, 2013). Regarding reliability and accountability, teachers should ensure that they follow through in a timely manner with implementing services and completing tasks that were agreed upon during IEP meetings (Rodriguez et al., 2014a; Wolfe & Duran, 2013).

**Teachers should explicitly explain instructional methods to families and clearly describe how services specifically meet students' needs.**

### Respect

Ultimately, collaborative partnerships with CLD families are rooted in mutual respect during the IEP process (Haines et al., 2015). Parents have indicated that it is important that educators value the child as a person rather than as a disability label and that educators engage in simple courtesy (e.g., being on time, acknowledging parents' efforts) with them during the IEP process (Blue-Banning et al., 2004).

As stated in the Competence section, teachers should move beyond the disability label to get to know each student as a unique individual and a person first. This is particularly true for students with intellectual and developmental disabilities who do not speak; they are often at risk of being misinterpreted as incompetent, especially if they do not use a mode of augmentative alternative communication (AAC; Calculator, 2009). Teachers should work to ensure that all students served by special education who do not speak, especially those with the most significant needs, have access to AAC so that they can participate as much as possible in the general education curriculum (Calculator, 2009).

Regarding respectful interactions with CLD families, teachers should certainly make every effort to be on time to IEP meetings, to let families know as early as possible if they need to reschedule a meeting, and to value family contributions in IEP meetings (Harry, 2008). Because many CLD families report feeling marginalized when teachers disregard familial expertise and value their own professional knowledge over familial knowledge, teachers should proactively support and validate family contributions in IEP meetings (Wolfe & Duran, 2013). When unanticipated situations arise during busy workdays that result in being late or stressed, teachers should consider explaining this to families to avoid the tardiness or stress being

interpreted as a sign of disrespect (Wolfe & Duran, 2013).

## Developing Collaborative Partnerships With CLD Families

Despite widespread awareness of the importance of CLD family engagement in special education, the lack of culturally responsive collaborative partnerships with CLD families has persisted as a problem. It is essential for teachers to systematically enact purposeful and individualized strategies to address this problem with their CLD families. Teachers should formally identify areas of need and specific action steps related to each of the guiding questions. Because it is not realistic to expect to solve this problem immediately, we recommend that teachers start by choosing one strategy that addresses at least one of the purposes for each guiding question.

## Conclusion

Despite its successes in achieving compulsory public education for eligible students with disabilities, IDEA is implemented by a bureaucratic system that demands parents become advocates for their individual children through negotiations reliant upon on social and cultural capital (Ong-Dean, 2009; Sauer & Albanesi, 2013; Trainor, 2010). What this means is that the parents who have the capital to advocate this way typically get what they want for their children. CLD families may be hesitant or unable to advocate, and their strengths and willingness to participate may be misinterpreted by school professionals because of lack of cultural competence or may be disregarded due to hierarchical power relations in which professional expertise is valued over familial expertise (Harry, 2008; Olivos et al., 2010). Adhering to our guiding questions for developing culturally responsive collaborative partnerships with CLD families can help to bridge this gap in the IEP process and bring about important positive outcomes for these children and their families.

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# Strategies for Helping Parents of Young Children Address Challenging Behaviors in the Home

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*Ms. Kim is an experienced special education teacher in an inclusive preschool classroom. In the fall, Ms. Kim implemented some classroom management strategies and had been successfully handling challenging behaviors as they occurred. In January, a new child, Sara, joined Ms. Kim's classroom. Sara is a 3-year-old girl with significant developmental delays and very limited expressive language to communicate her needs and wants. Sara's family moved to the United States from China 2 years prior. Both parents speak English fluently, but the primary language used at home is Chinese. Sara uses pointing and crying to express her needs most of the time. During her first week of school, the sound of Sara's crying filled the classroom. Ms. Kim knows she needs to do something for this little girl. Sara's parents have told Ms. Kim that Sara's behavior is the same at home, and they do not know what to do. They have asked Ms. Kim for help. The school behavioral specialist has conducted a functional behavior assessment (FBA) for Sara at school, which indicates that Sara does not have the language skills to express her needs and that the functions of her challenging behaviors were mainly to obtain things she wanted and, to a lesser extent, escape from activities. The behavioral specialist has suggested Ms. Kim teach Sara to express her needs using the Picture Exchange Communication System (PECS; Frost & Bondy, 1994). Along with some other positive behavior support strategies that Ms. Kim had already been using in her class, such as building positive relationships with children, setting up a supportive learning environment, and designing meaningful learning activities, Sara's behavior greatly improves after PECS is introduced.*

*During the teacher–parent conference in mid-February, Ms. Kim talks about Sara's improvements; although Sara's parents are impressed by her progress at school, her crying behavior has not changed much at home. They have asked Ms. Kim what more they can do.*

*Challenging behavior* can be defined as "any repeated pattern of behavior, or perception of behavior, that interferes with or is at risk of interfering with optimal learning or engagement in pro-social interactions with peers and adults" (Smith & Fox, 2003, p. 6). Children who display challenging behavior that are not responsive to typical supports are at risk of ongoing, persistent problematic behavior of increasing intensity as well as later academic difficulties (Fox, Dunlap, & Cushing, 2002; Powell, Dunlap, & Fox, 2006). Sara's persistent crying is disruptive to the other children in the classroom and limits Sara's ability to engage in positive interactions with her teachers and peers and to participate in learning activities. Her behavior also causes distress for her family at home, indicating a need to address the issue in a systematic way across settings.

It is generally accepted that challenging behaviors serve some sort of communicative purpose—to gain access to something desired (e.g., a toy, adult attention) or to escape from something aversive (e.g., a difficult task; a structured activity, such as circle time; Dunlap, Ester, Langhans, & Fox, 2006). Challenging behaviors develop, persist, and sometimes intensify because they are working for the child in some way (i.e., getting that child's needs met). A child who hits and shoves to access a toy is reinforced for that behavior each time the other child relinquishes the object, increasing the likelihood the child will hit and push the next time a toy is possessed by someone else. In this way, the consequences of the challenging behavior (access to the desired toy) influence whether the child will use the challenging behavior the next time a set of similar circumstances arises.

An evidence-based, systemic approach to promoting positive behavior change is positive behavior support, which focuses on prevention of challenging behavior, teaching functional skills to replace the challenging behavior, removing the maintaining consequences of the challenging behavior, and reinforcing the newly acquired, desirable behavior (Powell et al., 2006). An integral component of positive behavior support is the FBA, which is conducted across contexts to understand how consequences (i.e., what happens after the challenging behaviors) and antecedents (i.e., what occurs before the challenging behaviors or the condition under which the behaviors happen) affect challenging behaviors (Dunlap & Fox, 2011). Successful implementation of positive behavior support requires collaboration with team members, including parents and professionals.

*When Sara initially displayed persistent crying behavior, professionals in the school setting conducted an FBA as part of the positive behavior support process to identify the functions of the behavior. The FBA results indicated that because she lacked age-appropriate communication skills, Sara cried to obtain things she wanted or to escape activities that she did not like. The FBA results were used to develop a plan that promoted more socially acceptable ways (i.e., replacement behaviors) for Sara to communicate her wants and needs at school. Teachers provided positive reinforcement when Sara displayed the appropriate replacement behaviors, which ultimately reduced her crying. However, the use of the replacement behaviors did not generalize to the home setting, highlighting the importance of involving parents in each step of implementing positive behavior supports.*

## Importance of Parent Involvement

Challenging behavior not only is disruptive in classroom environments but also can negatively affect families when children demonstrate persistent challenging behavior in the home and community settings. Families are at increased risk of stress and isolation from their communities when young children demonstrate challenging behavior, potentially reducing time the family spends in places such as parks, grocery stores, family events, and restaurants (Fox et al., 2002). An integral part of any positive behavior support system in place for young children

demonstrating challenging behavior is family support and parent training.

Current research suggests parents are capable of providing positive behavior support in the home to decrease challenging behavior (e.g., Duda, Clarke, Fox, & Dunlap, 2008; Dunlap et al., 2006; Fettig & Barton, 2014). Elements crucial to achieving enduring behavior change in young children include (a) family centeredness, (b) family and professional partnerships, and (c) successful inclusion in the child's natural environments (Fox et al., 2002). These elements are part of developing an intervention with good "contextual fit," which is "the congruence between the behavior support intervention and the values, skills, resources, and routines of those who will implement the intervention" (McLaughlin, Denney, Snyder, & Welsh, 2012, p. 88).

## Family Centeredness

Family centeredness involves working with families in ways that strengthen and empower the family to support the child's needs within the specific cultural context of the family (Noonan & McCormick, 2014). This includes determining needs, concerns, and priorities as a family and providing supports and resources that meet those identified needs. Family centeredness also involves working with the family to support the child's development in the natural environments of the child and family (i.e., those environments in which the family typically participates: the home, playground, library, restaurants). In the case of working with parents in implementing a positive behavior support plan, family centeredness includes teaching family members (a) specific strategies for preventing challenging behaviors, (b) how to teach their children functionally equivalent skills, and (c) how to reinforce their children's new appropriate behaviors within the activities and routines of the family (Fox et al., 2002). Classroom teachers play a particularly important role in helping families carry over successful classroom strategies to the home environment and in supporting families to develop strategies specifically for the home.

## Family and Professional Partnerships

An important aspect of the development and implementation of an effective behavior support plan is the relationship formed between parents and early childhood professionals. Family-centered practices that help establish effective family–professional partnerships include "treating families with dignity and respect," providing families with information so they are able to make informed decisions regarding their child and family, and giving families choices regarding their desired level of involvement and services (Noonan & McCormick, 2014, p. 37). Teachers who institute these practices as part of carrying out positive behavior supports with families can increase the likelihood of successful implementation by parents and positive outcomes for children. By recognizing that parents provide valuable information during the information-gathering step of the positive behavior support process, and also serve as the most important change agent in the child's life, teachers demonstrate respect for families. Whereas families provide professionals with important assessment and observational data, professionals can help families learn to implement strategies to effectively promote their child's positive behavior across the natural activities and routines of the family (Fox et al., 2002). Providing families with information regarding potential behavioral strategies, offering choices around which strategies to implement, and ascertaining family members' preferences regarding level of involvement in implementation will increase the likelihood teachers and families will develop a behavior support plan that is meaningful and readily implemented in the home. Ongoing, effective communication needs to occur in order for classroom teachers to develop collaborative relationships with families with children in need of positive behavior support. This may involve regular meetings and scheduled conferences as well as more informal opportunities to communicate during pickup and drop-off or through written communication (e.g., a journal sent back and forth between home and school, e-mail, phone calls, text messages).

**Classroom teachers play a particularly important role in helping families carry over successful classroom strategies to the home environment.**

## Inclusion in Natural Environments

The inclusion of young children exhibiting challenging behavior in the typical activities and routines of the family is important to the well-being and optimal functioning of the family. Families of young children exhibiting persistent behavior challenges may experience isolation from family, friends, and the larger community (Powell et al., 2006). Many studies have shown that behavior support programs work best when professionals address how to support the parents in successfully including their child and family in those activities deemed important by the family, which may include going to the park, going to the grocery store, or eating at a restaurant (Lucyshyn, Dunlap, & Albin, 2002). Early childhood special education teachers need to work with families to develop and implement strategies that will enable the entire family to participate in those daily and occasional activities that are meaningful and occur outside the classroom environment.

*Ms. Kim realized that involving Sara's family in assessment, development, and implementation of the behavior support plan would increase*

*the efficacy of the plan in decreasing the challenging behavior and increasing Sara's functional communication within the contexts most meaningful to the child and family. After learning that Sara's crying behavior continued to persist at home, Ms. Kim decided to schedule additional meetings with the parents to more actively collaborate with them as part of the positive behavior support process. During the initial meeting in the family's home in late February, Ms. Kim asked Sara's parents about their needs for supporting Sara as well as their expectations. Sara's parents indicated that they had great difficulties with Sara during mealtime—she would not sit at the table during any meal. Sara would cry until they let her leave the table. They especially miss going out to eat with friends, which they have not been able to do for almost a year due to Sara's mealtime crying. As first-generation immigrants without much support from their immediate family, who had remained in China, these meals are important to Sara's parents. Dinners out had provided them a way to connect with the Chinese community in their town and this played an important role in helping their family maintain their cultural ties while living in the United States. Sara's parents and Ms. Kim agree to focus on a single routine, mealtime, which will greatly affect their family functioning and community support network. By improving Sara's behavior during mealtime, the family hopes to improve life quality.*

*Establishing trusting relationships with parents takes time and is vitally important to creating successful collaborations between classroom and family contexts. Ms. Kim knows she will need to conduct several home visits during the rest of the school year in order to build rapport with the family, check in on the family's progress with the function-based intervention, collect data, and determine the family's need for assistance with any other issues.*

### Working With Families From Diverse Backgrounds

The demographic landscape in the United States is changing, with more and more children from culturally and linguistically diverse (CLD) families present in classrooms (Banerjee & Luckner, 2014). Young children from CLD families may be simultaneously learning two languages in the home or may be learning English primarily in the classroom with little to no exposure in their home or communities. In addition to linguistic differences, there may also be differences in developmental and behavioral expectations based in the family's culture. Varying expectations based on social and cultural context may be reflected in differences in perception and identification of challenging behavior (Wang, McCart, & Turnbull, 2007). It is important that professionals working with families of CLD backgrounds engage in the positive behavior support process in a way that respects and values the families' cultural perspective and recognize that the process itself incorporates values of mainstream American culture (Wang et al., 2007).

**Engaging in the development of cross-cultural competence enables teachers to work more effectively with children and families from culturally and linguistically diverse backgrounds.**

An emphasis for teachers working in multicultural educational settings and communities is development of cross-cultural competence. *Cross-cultural competence* is the "ability to think, feel, and act in ways that acknowledge, respect, and build on ethnic, [socio]-cultural, and linguistic diversity" (Lynch, 2004, p. 43). Development of cross-cultural competence involves self-reflection, general knowledge of other cultural groups' values and beliefs, and the ability to communicate effectively with those from cultures different from one's own (Lynch, 2004). Engaging in the development of cross-cultural competence enables teachers to work more effectively with children and families from CLD backgrounds by providing foundational understanding of one's own potential biases as well as an understanding of how to communicate with families from a cultural background different from one's own.

Wang and colleagues (2007) provided suggestions for implementing the positive behavior support process with families from CLD backgrounds (Table 1). Before starting the positive behavior support process, it is recommended that teachers reflect on their own cultural backgrounds. Self-reflection allows providers to understand how their own culture influences their perspectives on child development and working with families, child and parent expectations, and teaching practices (Lynch, 2004; Noonan & McCormick, 2014). It is recommended that teachers learn about the family's behaviors and expectations for the child (e.g., roles of family members, family structure, nonverbal communication, whether the family feels comfortable disagreeing with a professional, comfort with sharing personal information, discipline style; Wang et al., 2007). When conducting the FBA and developing behavior plans, Wang et al. have suggested building a relationship with the family using a cultural mediator, understanding the family's perspectives of the positive behavior support process and the preferred level of involvement, and identifying supports for the family as well as possible barriers to successful collaboration. Finally, when implementing the behavior support plan, it is important to support the whole family and communicate effectively with the family members regarding their perspective on what is and is not going well as well as their goals for the child (Wang et al., 2007). Instrumental in successful outcomes of the positive behavior support process is the willingness and ability of teachers

**Table 1. Involving Families From Culturally and Linguistically Diverse Backgrounds During the Positive Behavior Support Process**

| | |
|---|---|
| Before starting the process | • Reflect on one's own cultural background<br>• Learn about the family's behaviors and expectations for the child |
| Conducting the functional behavior assessment and developing a positive behavior support plan | • Build a relationship with the family using a cultural mediator<br>• Understand the family members' perspectives of the positive behavior support process and their preferred level of involvement<br>• Identify supports for the family and possible barriers to successful collaboration |
| Implementing positive behavior supports | • Support the whole family<br>• Communicate effectively with the family members regarding their perspective on what is and is not going well as well as their goals for the child |

working with families from CLD backgrounds around challenging behaviors to reflect upon and understand their own values and biases, recognizing that they may differ from those of families and that they could potentially affect the collaborative relationship (Barton & Banerjee, 2013).

*As part of the positive behavior support process, Ms. Kim needs to attend to potential cultural influences on the parents' perception of Sara's challenging behavior, how involved they want to be as part of the team, and what kinds of strategies are acceptable to them. Although it was established early on in January that the parents observed the same crying behavior at home and were interested in support around decreasing this behavior, little more was learned at that time regarding (a) possible cultural influences on her parents' perceptions of Sara's behavior, (b) the family's involvement in the local Chinese community or ability to navigate transculturally, (c) the family's comfort in taking on a collaborative role with professionals, and (d) daily routines and activities where the family needed more support. Good communication regarding these questions was needed to facilitate the process of understanding the perspectives and context of the family and increase the likelihood the resulting positive behavior support plan would be carried out successfully in the home as well as the classroom.*

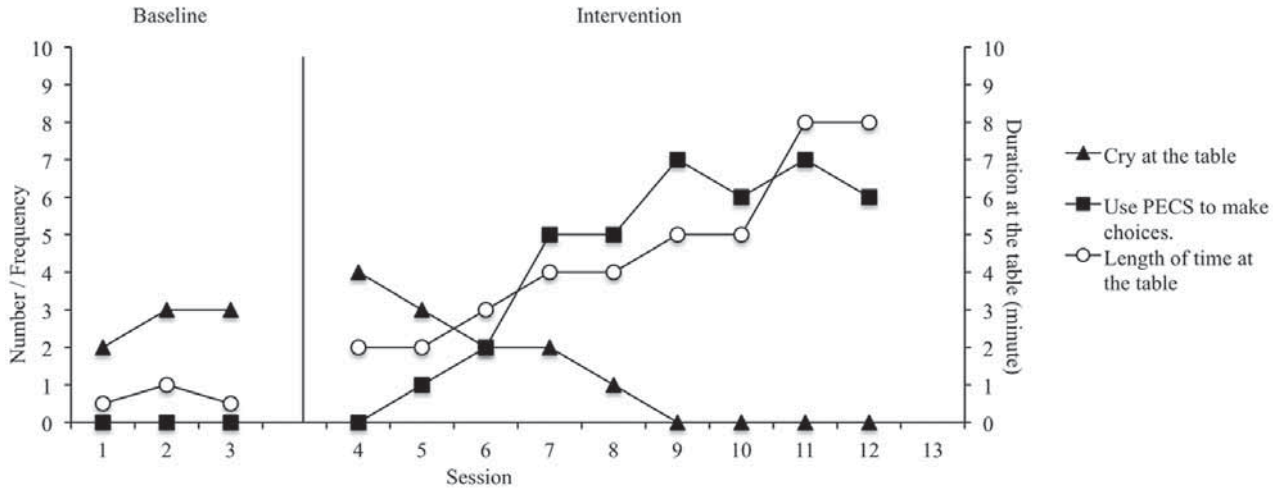
*To help with her approach in collaborating with Sara's parents, before the first home visit Ms. Kim researched Chinese culture and its potential influence on (a) perception of the teacher's and parents' roles in education and (b) parenting styles. Ms. Kim understood that although there was likely as much within-culture variation as cross-cultural variation for the family, having some initial insight as to how Sara's family viewed her role as teacher, the role of parents, and Sara's behavior would provide a strong foundation for a successful function-based intervention. During her first home visit, Ms. Kim clarified that she was there to support the family members, and if they did not feel comfortable with the strategies she suggested as a result of the positive behavior support plan, they could communicate that to her, and they would collaborate as a team to develop strategies acceptable to everyone. Sara's parents indicated that Sara's success in school was very important to both of them and that they wanted to get involved in Sara's education as much as possible. They believed that Ms. Kim was the expert, and they would try their best to follow Ms. Kim's suggestions.*

## Conducting a Functional Behavior Assessment in the Home

The first step of developing a behavioral intervention plan is to conduct an FBA to determine the reasons for the challenging behaviors (Dunlap & Fox, 2011; Sugai et al., 1999). Research has shown that interventions based upon FBAs are more effective at decreasing challenging behaviors compared to interventions that do not consider information derived from a FBA (Ingram, Lewis-Palmer, & Sugai, 2005). During the FBA, the teacher may gather information through checklists and behavior scales, by conducting interviews with parents, or by directly observing the student in the home. Once all the information is gathered, the team will identify the challenging and replacement behaviors, define them using measurable and observable terms, discuss what happens before and after the challenging behavior occurs (i.e., antecedents and consequences) that may be maintaining the challenging behavior, and decide the function of the behavior (Wood & Ferro, 2014).

*Sara's parents wanted support during mealtime. During her first home visit, Ms. Kim interviewed Sara's parents to get their perspectives. She asked Sara's parents about their routine before mealtime, when Sara cried, and how else they responded to her crying besides letting her leave the table. Sara's mom told Ms. Kim that Sara typically entertained herself while she was preparing for dinner. When dinner was ready, Sara's mom would call her to wash hands and come to the table. Sara typically participated in this part of the*

**Figure 1. Sara's Data During Baseline and Intervention**




*Note.* During baseline, when Sara cried, her parents would try to redirect her attention. Most of the time, redirection did not work, so she was allowed to leave the table. When intervention started, Sara was not allowed to leave the table before the timer ended. That explains why the frequency of her crying initially increased after the intervention was implemented.

*routine and allowed her dad to wash her hands and take her to the table. Once seated at the table and presented with food, Sara typically cried. When this happened, they would try to redirect her by showing her the food she liked. Sometimes it worked, and she would eat a bite or two. Most of the time it did not work, and as a result, they let her leave the table so she would stop crying, and Mom would feed her while she was away from the table. Sara's parents shared that it was common to feed young children in Chinese culture, but they wanted to feed her when she was at the table and not while she was running around the house.*

*After her first home visit with the family, Ms. Kim observed Sara several more times in the home during mealtime to collect baseline data (i.e., the length of time that Sara spent at the table during each meal and the occurrence of crying). These observations allowed further refinement of hypotheses regarding function(s) of the challenging behavior. Once the positive behavior support plan was put in place, intervention data collected during mealtime could be compared to baseline data to see if there was a decrease in the crying behavior (see Figure 1). After gathering information through the parent interview and direct observations, Ms. Kim conducted another home visit in mid-March to discuss the findings. Ms. Kim explained to Sara's parents that children used challenging behavior to communicate, and the reason that challenging behavior persisted was because it worked to get their needs met. After discussing Sara's behaviors immediately before and during meal time, both parties agreed it was possible that Sara's crying behavior was due to the fact that she preferred not to participate during mealtime, and the replacement behavior would be that Sara would sit at the table to finish her meal. They hypothesized that the function of her challenging behavior was to escape from mealtime.*

## Developing a Behavior Intervention Plan With Parents

Once an FBA has been completed, the teacher can work collaboratively with the family to brainstorm support strategies that match the function of the challenging behavior. When developing a behavior intervention plan with parents, the teacher should consider the family's goals, strengths, supports, and needs. Each family is unique, and a behavior support plan is more likely to be accepted and consistently implemented by the family when it is a good "contextual fit" for the family (McLaughlin et al., 2012). The team works together to identify (a) effective strategies that have been used by the teacher and family, (b) prevention strategies that make the child less likely to engage in challenging behaviors, (c) new skills needed by the child to appropriately get needs and wants met, and (d) new responses to the challenging behavior to make it less effective for the child. These strategies should be easy and efficient for the family to use (Fettig, Schultz, & Ostrosky, 2013).

## Working With Parents to Identify Prevention Strategies

Using prevention strategies can decrease the opportunities for the child to engage in challenging behaviors by removing the triggers of challenging behaviors or making the use of challenging behaviors irrelevant and by increasing the opportunities for the child to engage in appropriate behaviors (Dunlap, Lee, & Strain, 2013; Powell et al., 2006). When developing prevention strategies for parents to use at home, the teacher could first discuss with the parents some easily implemented prevention strategies, like modifying the environment, establishing a predictable routine and following it, providing clear

**Table 2. Examples of Prevention Strategies**

| Strategy | Examples |
|---|---|
| Modify the environment | • Reduce distractions.<br>• Provide visual guidance. |
| Establish a predictable routine and follow it | • Use a visual schedule to help child understand when an activity will occur. |
| Provide clear expectations and teach them | • Instead of saying, "Don't cry," tell the child to "use your PECS to tell me what you want."<br>• Tell the child that he or she needs to finish eating before he or she leaves the table. |
| Give choices | • Instead of asking the child to eat, give him or her a choice. For example, "Do you want to try some beef or broccoli?" to give the child some control while still providing the expectation that the child will eat. |
| Use cues | • Use a timer to let child know when an activity will occur.<br>• Tell the child, "Dinner will be ready in 5 minutes." |
| Use a First-Then board |  |

expectations and teaching them (e.g., instead of saying, "Don't cry," tell the child to "use your PECS to tell me what you want"), giving choices, using cues, and using a First-Then board (a laminated piece of paper with a space for two picture cues to be placed side by side—one depicting the current activity [e.g., mealtime], and the other depicting the [reinforcing] activity to follow [e.g., playtime]; see Table 2). The teacher and parents can then decide if it is possible to remove the trigger of the behavior. If the triggers cannot be removed, the teacher and family can talk about what could be done to make the child's use of challenging behaviors irrelevant and how to teach the child more appropriate behaviors to replace the challenging behavior. It is important that the teacher builds on the strategies that the parents have already tried at home.

*Ms. Kim shares her concerns that Sara may feel bored during mealtime, contributing to her desire to escape from the activity. She asks Sara's parents if it would be possible provide some food on Sara's plate to let her eat by herself so she could be an active participant in mealtime. At the same time, Sara's parents could still feed her. Sara's mom is interested in trying this idea; she likes giving Sara the opportunity to practice eating independently, because she had been worried that Sara did not eat well during lunch at school when no one fed her.*

*Ms. Kim also suggested that Sara's parents could provide Sara with some choices to encourage active participation and give her some control within the mealtime routine. For example, they could ask her if she would like to sit next to Mom or Dad, or they could give her two food choices and ask her which one she wanted to eat (e.g., "Do you want broccoli or carrots?"). Ms. Kim offers to make some food pictures to add to Sara's PECS notebook so she could use these pictures to make her choices during mealtime at home. Ms. Kim also suggests they might want to use a First-Then board. If the parents are willing to modify their routine and add one of Sara's favorite activities after dinner, they could use the First-Then board to tell Sara that when dinner was finished, she could go to her favorite activity.*

## Helping the Family Teach Replacement Skills

Teaching replacement skills provides the child with socially acceptable and effective ways to get his or her needs met. The teacher should talk with the parents about the importance of teaching the child new skills that replace the challenging behaviors to better communicate his or her wants and needs. When selecting replacement skills, the teacher should consider the function of the problem behavior (Fox, Clarke, & Dunlap, 2013); whenever possible, the replacement skills should serve the same function as the problem behaviors. For example, if the function of hitting is for a child to obtain a peer's toy, the replacement skills should be a socially appropriate way for the child to gain access to the toy (i.e., to request using words, signs, or pictures). On some occasions, when the function of the behavior cannot be honored (e.g., avoiding getting into the car seat), the replacement skills for the

child can be to teach him or her to make a choice (e.g., "You can take your teddy bear or your doll, but you need to sit in the car seat"), to use coping skills (e.g., "You can take your blanket and eat your snack when you are in the car"), to anticipate the transition and participate (e.g., provide the cue and use a visual schedule), and to wait for the reward (e.g., "When we get to the bookstore, you can choose a book to buy"; Fox et al., 2013).

The teacher should also take into consideration the skills that the child has already acquired. If the child is not yet talking, then teaching the child to verbally request may not be a good choice. Instead, it may be more appropriate to teach the child to use PECS or sign language. The replacement skills need to be efficient and effective for the child to use (Barton & Banerjee, 2013). Once the child uses the desired behavior, parents should provide the rewards immediately (e.g., give the child the toy).

*Through her conversations with Sara's parents, Ms. Kim found they really wanted Sara to join them at the table for dinner, so they could not reward the function of Sara's problem behavior. As a result, Ms. Kim recommended that the replacement skills to teach Sara would be to tolerate longer periods of time at the table. Ms. Kim suggests that Sara's parents use a timer, initially set it for 3 minutes, and then gradually increase the length of time sitting at the table to 5 minutes, then 7 minutes, and so on. When the timer goes off, Sara could use PECS to request to leave the table. Ms. Kim also points out that because it might take some time for Sara to master the new replacement skill during the learning process, Sara's parents might still need to feed her for a period of time while she played.*

*At the same time, Ms. Kim recommends Sara's parents teach her to use the prevention strategies because the skills are new to Sara. For example, they could teach Sara to anticipate transition to mealtime, to make choices using PECS during meals, and to wait for a reward after meal. Before dinner, Mom could give Sara several cues and show her the First-Then board to tell her what she would do after dinner. During dinner, the parents could use PECS to let Sara make a choice of what she wanted to eat and also remind Sara, "When we are done eating, we can go to the playground. But you need to finish dinner first." Ms. Kim also suggests Sara's parents teach Sara these replacement and prevention skills throughout the day when she is not engaging in the challenging behavior and praise her whenever she used the new skills.*

### Coaching Families on Responding to Challenging Behavior

Whether or not the child will engage in the same problem behaviors in the future is determined by what happens immediately after the occurrence of the challenging behavior. It is important for the teacher to coach the parents on how to respond to the challenging behavior even if they have started to teach the child the replacement skills. This is due to the fact that it usually takes some time for the child to learn to use the replacement skills, and the child may continue using the challenging behavior before the new skills are mastered. When developing response strategies with the family, the teacher should first understand how the family typically responds to the challenging behavior and ask if these strategies work. The key is to make sure that if parents appear to be reinforcing the challenging behavior, they do not continue to do so as part of the behavior plan. When the child engages in problem behaviors, Fox et al. (2013) suggested redirecting the child to use the replacement skills.

*Sara's parents usually let her leave the table when she cried, which made Sara's challenging behavior effective. Ms. Kim has suggested that they not reward her challenging behavior by letting her down from the dinner table, instead communicate with Sara that crying would not help, and use the prevention strategies while at the same time reminding Sara of how to use the new replacement skills (e.g., to wait until the timer goes off).*

## Final Thoughts

Parent-implemented behavior supports for young children have shown promising results (Dunlap et al., 2006). Involving parents in the positive behavior support process will help the child generalize newly acquired skills to the home and community, and lead to positive child and family outcomes. In this article, we have provided several strategies to support teachers in understanding the importance and process of collaborating with parents during the positive behavior support process, regardless of their cultural and linguistic backgrounds, and to help parents understand the process and implement a behavior support plan during their daily routine. The following are suggestions for successful parent-implemented behavior supports.

### The Plan Needs To Be a Good Fit

When working with parents on behavior support plans, the teacher should respect the family's uniqueness and make sure that the intervention plan is a good fit for the family's needs, values, strengths, and resources.

### The Strategies Are Easy and Efficient

Most parents do not have systematic training in working with young children with challenging behaviors. The strategies teachers suggest for use in the home as part of the parent–teacher collaborative process should be simple for parents to implement. If the strategies are too complicated, or deviate from the family's routine, it will be difficult for parents to consistently implement them. In addition, the intervention should demonstrate some efficacy in a relatively short period of time. If the parents implement the strategies, and fail to see the effects, they may stop implementing the behavior plan (Fettig et al., 2013).

### Provide Parents With Ongoing Coaching

Effective and efficient strategies in the classroom setting may not work well in the home. Sometimes this might be because parents have difficulty implementing the behavior support plan with fidelity (Sears, Blair, Iovannone, & Crosland, 2013). Providing parents with ongoing coaching is an important part of parent-implemented positive behavior supports (Fettig & Barton, 2014). The teacher should model the strategies and give parents opportunities to practice the strategies before implementing the plan and conduct home visits to observe how parents implement the strategies in the natural environment and provide feedback (Powell et al., 2006). If home visits are not possible, it may be possible for the parents to video-record a typical routine so the teacher can provide feedback during a scheduled classroom meeting.

### Monitor the Child's Progress

The child's behavior at home should be closely monitored. The teacher can develop a checklist to help parents keep track of the child's behavior. The team should review the data regularly to examine the child's progress; if the child's behavior does not improve after the intervention plan has been implemented for a predetermined period of time, the teacher should discuss with the parents how they can modify the plan.

*Following the home visit in mid-March used to plan Sara's positive behavior supports, Ms. Kim prepared a set of PECS visuals for Sara to use at home and a notebook for Sara's parents to record anecdotal notes during dinnertime. Sara's parents implemented the behavior support plan, giving Sara cues before asking her to come to dinner and providing her some food to eat by herself. They taught Sara to make choices during mealtime, to anticipate a reward after dinner, and to stay at the table until the timer went off. At the same time, they no longer reinforced Sara's crying. When Sara used her challenging behavior, they redirected her to use PECS to make choices and told her that crying would not work.*

*Ms. Kim conducted several more home visits during dinner time, observed how Sara's parents implemented the behavior plan and how Sara performed, and answered the questions Sara's parents had about implementing the plan. During the last home visit in early May, both parents indicated that Sara's behavior had improved a lot since they started using positive behavior supports at home, the strategies were a good fit to the family's values, the strategies were easy to use, and they had started to use the strategies in other routines. They believed that they would be able to go out to eat with their friends very soon.*

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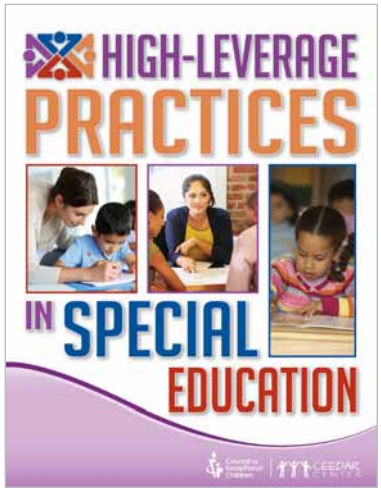


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# The Taxonomy of Intervention Intensity

Lynn S. Fuchs, Douglas Fuchs, and Amelia S. Malone

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Special education, which is the most intensive level of intervention within a school building, is implemented for students with disabilities by special educators or related personnel. At the same time, many schools incorporate responsiveness-to-intervention (RTI) systems (i.e., multi-tiered systems of support) that provide Tier 2 interventions to students who are at risk for disabilities. Over time, consensus has emerged about the optimal structure and form of Tier 2 intervention: a program that is supplemental, evidence based, well articulated (with a clear implementation manual that includes all materials), and delivered in small groups by a trained interventionist (D. Fuchs, Fuchs, & Compton, 2012; L. S. Fuchs & Vaughn, 2012; O'Connor & Fuchs, 2013).

The purpose of such a Tier 2 program is to provide time-limited support of moderate intensity to create a stronger foundation of academic skill among at-risk learners. The goal is to enable these students to achieve a level of academic performance that permits them to profit from and succeed in the general education classroom. Over the past 2 decades, the field has developed and validated many such Tier 2 programs that strengthen end-of-intervention outcomes for the majority of at-risk students, when schools implement the program's content and structure in the standard way (as described in the program's validation studies and in the manual).

Yet, over these 20 years, evidence has also converged that not all students respond to such standard, evidence-based Tier 2 intervention programs, even when those interventions are delivered with fidelity. Research suggests that 5% to 10% of the general population of students require the intensive intervention afforded by special education (O'Connor & Fuchs, 2013). So, it is unfortunate that schools often have difficulty identifying how to further intensify intervention (beyond available Tier 2 validated programs) for students who respond inadequately to such programs. This lack of clarity limits the capacity of schools to analyze intervention options, and it dilutes the effectiveness of intensive intervention.

In this article, we describe the Taxonomy of Intervention Intensity, which articulates seven principles for evaluating and building intervention intensity based upon research. The Taxonomy's seven dimensions of intensity are strength, dosage, alignment, attention to transfer, comprehensiveness, behavioral support, and individualization (see Table 1). In explaining the Taxonomy, we present a case study illustrating how the Taxonomy can be used to systematize the process by which special educators and related personnel (a) set up the intensive intervention process and (b) monitor the student's response and systematically improve the program to match the target student's individual needs. The goal is to increase the quality of intensive intervention, improve student outcomes, and help schools design intensive intervention programs that are clearly distinguishable from less intensive (Tier 2) intervention programs.

## Applying the Taxonomy

*Daniel is a fifth-grade student who received his school's Tier 2 math intervention during fourth grade. The Tier 2 intervention program was evidence based, well articulated, and delivered in small groups by a trained interventionist. Its focus was fluency with basic facts, multidigit addition and subtraction, and whole-number word problem solving. Daniel achieved performance commensurate with his classmates on word problems, and his fluency with basic facts improved nicely. Yet, as Tier 2 intervention ended, Daniel still relied on counting strategies to solve the more difficult basic facts (e.g., 7 + 8), and regrouping within multidigit addition and subtraction problems (e.g., 114 + 329) still proved challenging.*

*Moreover, during fourth grade, Daniel fell further behind peers in other ways, as the focus on multiplication and division of whole numbers and the focus on fractions increased. Although Daniel could skip count by 2s, 3s, and 5s for multiplication, he spent considerable time calculating more difficult facts in the context of procedurally complex multiplication and division. He typically relied on repeated addition as his primary strategy but was often inaccurate with repeated addition on 7s, 8s, 9s, and 12s. He could label a fraction from a picture but struggled to compare fraction magnitudes without pictures, and he could not identify or calculate fraction equivalencies.*

*More generally, Daniel experienced working memory limitations and struggled to remember concepts and procedures that were previously mastered. He was also increasingly frustrated with his failing mathematics performance and was beginning to manifest behavior difficulties. At the start of fifth grade, the RTI team referred him for special education. The comprehensive evaluation diagnosed a mathematics learning disability, and the evaluation team determined that intensive intervention, provided via special education, was required to prevent Daniel from falling further behind. Ms. Marks was assigned to develop and implement Daniel's intensive intervention program.*

Ms. Marks builds Daniel's intensive intervention program by applying the Taxonomy of Intensive Intervention in two stages. In the set-up stage, she applies the Taxonomy to select the intensive intervention platform and to identify the progress-monitoring system to be used for tracking Daniel's response to this platform. In the implementation stage, Ms. Marks reapplies the Taxonomy on a periodic basis, whenever the progress-monitoring data indicate Daniel's response to the program is inadequate. On these occasions, she uses the Taxonomy to identify fruitful directions for individualizing the platform to meet Daniel's needs more effectively.

### The Set-Up Stage

In the set-up stage, Ms. Marks applies the first six dimensions of the Taxonomy to select the intensive

**Table 1. The Taxonomy of Intervention Intensity**

| Intensity dimension | Definition |
|---|---|
| Strength | How well the program works for students with intensive intervention needs, expressed in terms of effect sizes |
| Dosage | The number of opportunities a student has to respond and receive corrective feedback |
| Alignment | How well the program (a) addresses the target student's full set of academic skill deficits, (b) does *not* address skills the target student has already mastered (extraneous skills for that student), and (c) incorporates a meaningful focus on grade-appropriate curricular standards |
| Attention to transfer | The extent to which an intervention is designed to help students (a) transfer the skills they learn to other formats and contexts and (b) realize connections between mastered and related skills |
| Comprehensiveness | The number of explicit instruction principles the intervention incorporates (e.g., providing explanations in simple, direct language; modeling efficient solution strategies instead of expecting students to discover strategies on their own; ensuring students have the necessary background knowledge and skills to succeed with those strategies; gradually fading support for students' correct execution of those strategies; providing practice so students use the strategies to generate many correct responses; and incorporating systematic cumulative review) |
| Behavioral support | The extent to which the program incorporates (a) self-regulation and executive function components and (b) behavioral principles to minimize nonproductive behavior |
| Individualization | A validated, data-based process for process for individualizing intervention, with which the special educator systematically adjusts an intensive intervention platform over time to address the student's complex learning needs |

*Note*. The focus of this article is intensive *academic* intervention. Because students with intensive academic intervention needs often demonstrate co-occurring behavioral problems, this Taxonomy includes behavioral support as a dimension of intervention intensity. Also note that this Taxonomy has been adapted to also address students with emotional and behavior disorders and those with major co-occurring academic and emotional and behavior disabilities.

intervention platform. She initiates the seventh dimension by identifying the progress-monitoring system for tracking Daniel's response to this platform.

***Dimension 1: Strength.*** The Taxonomy's first dimension for selecting the intensive intervention platform is the strength of the intervention. *Strength* indicates how well the program works specifically for students with intensive intervention needs. If the program is strong for this subpopulation of learners, then the program is more likely to produce good results for Daniel, with fewer program adjustments required to meet Daniel's needs.

Intervention effects are quantified in terms of effect sizes, which indicate how much higher intervention students score at the end of intervention compared to students who did not receive that intervention. Let us say the intervention developers report an effect size of 1.0 standard deviation on an achievement test with a mean of 100 and standard deviation of 15, specifically for students who start intervention with academic performance at or below the 20th percentile (as is often the case for intensive intervention students). This means that if the average posttest score for students who did *not* receive intervention is 85, then the mean posttest score for students who *did* receive the intervention is 100. An effect size of 1.0 standard deviations is large. Generally, effect sizes of 0.25 standard deviations indicate an intervention has value in improving outcomes. Effect sizes of 0.35 to 0.40 are moderate; effect sizes of 0.50 or larger are strong.

Intervention programs that demonstrate strong effects for the kind of students in need of intensive intervention are more appropriate for use as intensive intervention platforms. Special educators should seek out interventions that disaggregate effects for students with intensive intervention needs. This information is provided, when available, in the National Center on Intensive Intervention (NCII) Academic Intervention Tools Chart (http://www.intensiveintervention.org/chart/instructional-intervention-tools).

*Ms. Marks reviews the NCII tools chart when considering program options for Daniel's intensive intervention platform. She notices that effect sizes for Fractions Face-Off! (L. S. Fuchs, Schumacher, Malone, & Fuchs, 2015), disaggregated for students who begin intervention below the 21st percentile in math, range from 0.85 to 2.64 (see Figure 1). On this basis, Ms. Marks thinks Fractions Face-Off! might be a good choice for Daniel, but she still has five additional dimensions of intensity to consider. She reads the information describing Fractions Face-Off! on the NCII website. She also contacts the developers of this intervention to obtain more information*

**Figure 1. NCII Tools Chart: Fractions Face-Off!**

National Center on
INTENSIVE INTERVENTION
at American Institutes for Research

**Disaggregated Data for <20th Percentile: Yes**

**Disaggregated Outcome Data Available for Students at 20th Percentile or Below**

**Targeted Measures**

| Construct | Measure | Effect Size |
|---|---|---|
| Math | Comparing Fractions | 1.64*** |
| Math | Fraction Number Line | 1.07*** |
| Math | Fraction Calculations | 2.48*** |

**Broader Measures**

| Construct | Measure | Effect Size |
|---|---|---|
| Math | National Assessment of Educational Progress | 0.85*** |

*and discovers that they have updated Fractions Face-Off! with Super Solvers (L. S. Fuchs, Malone, Wong, Abramson, Schumacher, & Fuchs, 2017).*

Super Solvers is a 39-session Tier 2 intervention. Each standard lesson lasts 35 minutes and has four parts: Problem Quest, Fraction Action, Math Blast, and Power Practice. Problem Quest addresses operations and word-problem solving with proportions, magnitude comparisons, and division of fractions. Word-problem instruction relies on schema theory (L. S. Fuchs et al., 2004; L. S. Fuchs et al., 2010), with which students learn the structure of different word-problem types. Students are taught to think about the word-problem narrative to identify the problem type and then apply the solution strategy that matches the identified problem type.

Fraction Action includes explicit instruction on understanding fraction magnitudes. Students are taught strategies to compare, order, and place fractions on the number line; taught to differentiate between the number of parts (the numerator) and the size of the parts (the denominator); and taught to use benchmarks (½ and 1) for assessing fraction magnitude. Math Blast builds fluency on skills foundational for thinking about and operating with fractions. For example, students solve as many multiplication problems or fraction comparison problems as they can in 2 minutes, with the goal of beating the previous day's score. Power Practice is independent work to practice just-introduced and previously taught content.

Super Solvers includes a curriculum-based measurement (CBM) progress-monitoring system (see Figure 2). An alternate CBM form, tapping the Fraction Action portion of Super Solvers, is administered before intervention starts and every 2 weeks during intervention.

In conjunction with this progress-monitoring system, Super Solvers incorporates an executive function and self-regulation component to encourage students to set realistic goals for their performance on CBMs. The executive function and self-regulation component also encourages students to persevere through difficult problems and regulate their attention during Super Solver sessions. Super Solvers also includes a behavior management system to encourage persistence, accurate work, and attentive behavior.

*With this information in hand, Ms. Marks begins completing the Taxonomy of Intensive Intervention Form (see Figure 3) to evaluate the intensity of Super Solvers for Daniel. She awards Super Solvers a score of 3 (each dimension is graded on a 0-to-3 scale; 3 is the high end of the scale) to reflect the strong effect sizes for students who begin intervention with performance at or below the 20th percentile.*

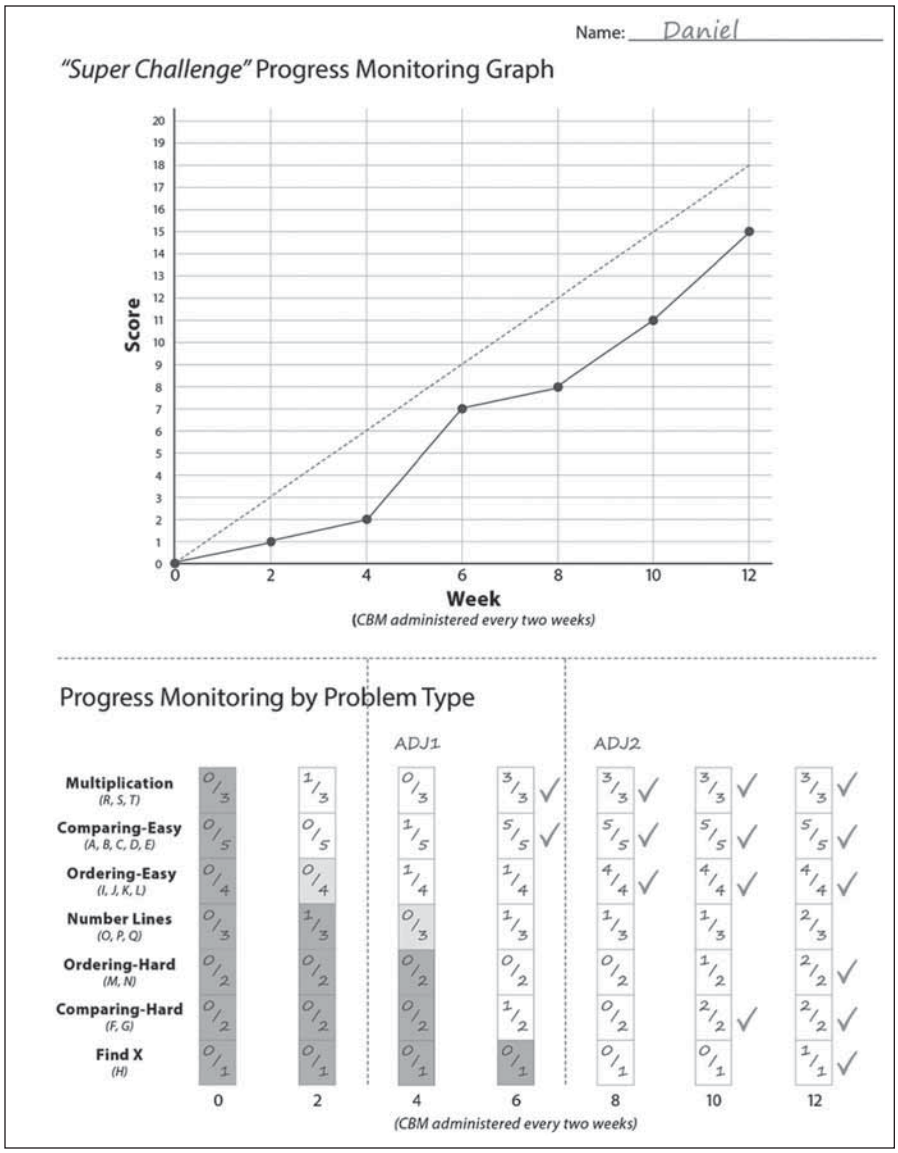
On the Taxonomy of Intensive Intervention Form, *t*he grading scale is 0 = fails to address dimension, 1 = addresses dimension minimally, 2 = addresses dimension moderately well, and 3 = addresses dimension well. *IIP* refers to intensive intervention platform. Plus marks show which dimensions of the Taxonomy Ms. Marks adjusted. *ADJ1* refers to Ms. Marks's first adjustment to the platform; *ADJ2* refers to her second adjustment. (Note that strength is based on studies conducted on groups of children. It does consider Daniel specifically. Therefore, this dimension is relevant only at the set-up stage.)

***Dimension 2: Dosage.*** The *dosage* dimension of the Taxonomy refers to the size of the instructional group, the number of minutes each session lasts, and the number of sessions provided per week. Each of these structural features of the intervention reflects the number of opportunities students have to respond and receive corrective feedback. So, we define the dosage dimension in the Taxonomy as number of opportunities to respond and receive corrective feedback.

If the developers do not provide this information in the program manual, we suggest the special educator randomly select two lessons near the beginning of the program, two from the middle of the program, and two near the end of the program. For each lesson, the special educator counts how many times each *single* student has to respond and receive corrective feedback.

*Ms. Marks finds that Super Solvers, which in standard format is conducted in groups of two students, provides each individual student with an average of 50 opportunities to respond and receive correct feedback in every lesson (for two students, a total of 100). To reflect this large number, she awards Super Solvers a score of 3 for Dosage. (There would be more opportunities to respond if Ms. Marks decides to deliver Super Solvers one-on-one.)*

**Figure 2. Daniel's curriculum-based measurement progress-monitoring graph**




***Dimension 3: Alignment.*** The third dimension of the Taxonomy is Alignment. This reflects the extent to which the intervention (a) addresses the target student's full set of academic skill deficits, (b) does *not* address skills the target student has already mastered (extraneous skills for that student), and (c) incorporates a meaningful focus on grade-appropriate curricular standards. This focus on alignment is important because many intervention programs restrict the set of skills addressed. For example, in early reading, many intervention programs limit their focus to word-level skill and reading fluency, even though many students also experience difficulty with listening and reading comprehension. In early mathematics, many programs are limited to number concepts and calculations, even though many students also experience difficulty with word problems. Maximizing alignment increases intensity. It also creates efficiency for the special educator by reducing the number of required adjustments to the intensive intervention platform.

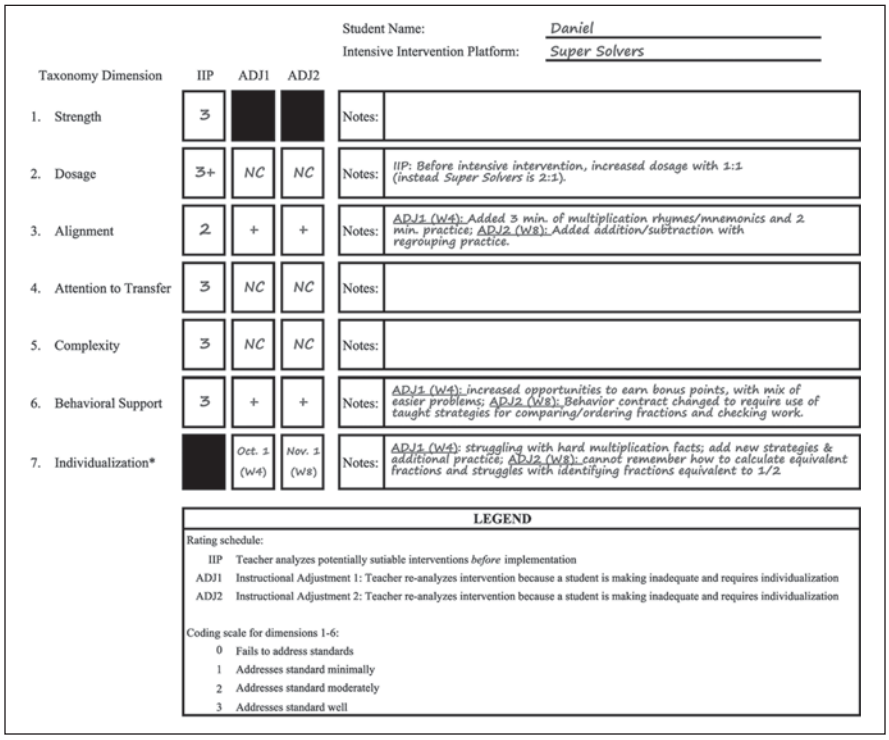
We also emphasize the importance for intensive intervention to focus on the grade level's challenging standards. This may help the target student participate in and profit from the Tier 1 program. Alignment requires the special educator to explicitly connect intervention on foundational-skill deficits to align with the standards addressed in general education. For example, if a fourth-grade target student's mathematics performance is substantially below grade level, with poor understanding of and procedural skill with whole numbers, the special educator may select an intensive intervention platform with high match (content coverage) on whole numbers. Yet, recognizing that fractions are a substantial focus at the intermediate grade levels, the special educator must adjust the intensive intervention platform to incorporate meaningful fractions instruction. The special educator may need to limit the range of denominators to minimize whole-number demands while promoting understanding of fraction principles.

*To grade Super Solvers on alignment, Ms. Marks considers information from Daniel's comprehensive evaluation. She identifies which of his skill deficits are addressed in Super Solvers. Eighty percent of Daniel's skill deficits are addressed in this program (all but whole-number addition and subtraction). Ms. Marks then considers this percentage along with the number of extraneous skills covered (0%) and the percentage of grade-level state standards addressed (50%). Together, these three percentages reflect Super Solvers' alignment for Daniel. Programs with a high degree of alignment are more likely to produce stronger effects for the target student. Ms. Marks judges Super Solvers' alignment for Daniel as moderate (grade = 2).*

***Dimension 4: Attention to transfer.*** The fourth dimension of the Taxonomy, attention to transfer, refers to the extent to which an intervention is systematically designed to help students transfer the skills they learn to other formats and contexts. It also refers to the extent to which the intervention helps students realize connections between mastered and related skills, which are required to produce meaningful generalization.

Transfer is a major obstacle for students with severe learning problems, and research shows the benefits of

**Figure 3. Completed taxonomy of intensive intervention form for Daniel**



Student Name: Daniel
Intensive Intervention Platform: Super Solvers

| Taxonomy Dimension | IIP | ADJ1 | ADJ2 | Notes |
|---|---|---|---|---|
| 1. Strength | 3 | | | |
| 2. Dosage | 3+ | NC | NC | IIP: Before intensive intervention, increased dosage with 1:1 (instead Super Solvers is 2:1). |
| 3. Alignment | 2 | + | + | ADJ1 (W4): Added 3 min. of multiplication rhymes/mnemonics and 2 min. practice; ADJ2 (W8): Added addition/subtraction with regrouping practice. |
| 4. Attention to Transfer | 3 | NC | NC | |
| 5. Complexity | 3 | NC | NC | |
| 6. Behavioral Support | 3 | + | + | ADJ1 (W4): increased opportunities to earn bonus points, with mix of easier problems; ADJ2 (W8): Behavior contract changed to require use of taught strategies for comparing/ordering fractions and checking work. |
| 7. Individualization* | | Oct. 1 (W4) | Nov. 1 (W8) | ADJ1 (W4): struggling with hard multiplication facts; add new strategies & additional practice; ADJ2 (W8): cannot remember how to calculate equivalent fractions and struggles with identifying fractions equivalent to 1/2. |

**LEGEND**

Rating schedule:
- IIP Teacher analyzes potentially suitable interventions *before* implementation
- ADJ1 Instructional Adjustment 1: Teacher re-analyzes intervention because a student is making inadequate and requires individualization
- ADJ2 Instructional Adjustment 2: Teacher re-analyzes intervention because a student is making inadequate and requires individualization

Coding scale for dimensions 1-6:
- 0 Fails to address standards
- 1 Addresses standard minimally
- 2 Addresses standard moderately
- 3 Addresses standard well

explicit transfer instruction. For example, in a large randomized control trial, L. S. Fuchs and colleagues (2003) contrasted schema-based instruction (teaching students to recognize the underlying mathematical structure of whole-number word-problem types) with and without explicit transfer instruction. With explicit transfer instruction, teachers explained how superficial word-problem features (e.g., response format, vocabulary) can make problems look unfamiliar even though the problem type has already been mastered by the target student. Teachers also provided practice in sorting problems with confusing superficial problem features into the word-problem types students had learned, and teachers encouraged students to search novel problems for familiar word-problem types. Results indicated dramatic benefit for explicit transfer instruction.

Interventions that include explicit transfer instruction offer greater intensity than those that assume transfer will occur. Special educators should select intensive intervention platforms that incorporate explicit transfer instruction, when this is available. When programs do not include explicit transfer instruction, the special educator may incorporate explicit transfer instruction before starting to implement the intensive intervention platform. Alternatively, explicit transfer instruction may provide a promising direction for adjusting the intensive intervention platform as mastery of taught skills is achieved.

*Ms. Marks judges Super Solvers to strongly focus on explicitly teaching for transfer. Super Solvers explicitly encourages students to apply the skills taught during intervention not only in their classrooms but also in everyday life. It explicitly teaches students how to identify opportunities in other settings to apply what they learn during intervention. The program also explicitly teaches students how problems may look unfamiliar (e.g., be presented in unfamiliar formats or include irrelevant information or with questions posed in novel ways) but how those unfamiliar-looking problems tap the skills students have learned during intervention. Ms. Marks awards Super Solvers a grade of 3 for its strong emphasis on explicitly teaching for transfer.*

***Dimension 5: Comprehensiveness.*** *Comprehensiveness* reflects the number of explicit instruction principles the intervention incorporates. Strong evidence indicates that explicit instruction promotes better learning among students receiving intensive intervention (for syntheses in mathematics and reading, see Gersten et al., 2009; Vaughn, Gersten, & Chard, 2000). Explicit instructional principles include: (a) providing explanations in simple, direct language; (b) modeling efficient strategies (e.g., for operating on text or solving mathematic problems) instead of expecting students to discover strategies on their own; (c) ensuring students have the necessary background knowledge and skills to succeed with those strategies; (d) gradually fading support for students' correct execution of those strategies; (e) providing practice so students use the strategies to generate many correct responses; and (f) incorporating systematic cumulative review.

*Ms. Marks carefully reads the six lessons she randomly sampled (see Dimension 2: Dosage). As she reads, she identifies where Super Solvers incorporates each of these explicit instructional principles: She underlines every instance where explanations are simple and direct and crosses out every instance where explanations are complex or indirect. She underlines every instance where the taught solution strategies provide students with efficient routes to correct solutions; she crosses out every instance where the taught solution strategies are inefficient and so on. She finds that Super Solvers relies exclusively on principles of explicit instruction and awards the program a grade of 3 on comprehensiveness.*

***Dimension 6: Behavioral support.*** Many students with severe academic difficulty display attention, motivation, and self-regulation difficulties that affect learning (e.g., Montague, 2007; Schunk & Zimmerman, 2011). Interventions that incorporate self-regulation and executive function components are more intensive than programs that do not incorporate such

components. The goal is to encourage students with a history of academic failure to persevere through academic struggle and continue to work hard, aim high, and adopt a high standard of coherence, in which students are not satisfied with answers that do not make sense. Many students with histories of severe academic difficulty require systematic encouragement and support for developing and exercising this type of noncognitive academic mind-set. The *behavioral support* dimension of intervention intensity reflects the extent to which interventions incorporate this focus and rely on behavioral principles to systematically build and support a strong noncognitive academic mind-set.

At the same time, some intervention students demonstrate noncompliant behavior that interferes with delivery of and productive engagement in intervention. This may include, for example, refusing to respond, disrupting intervention sessions, and distracting other students in the group. Therefore, the Taxonomy's behavioral support dimension also reflects the extent to which interventions incorporate behavioral principles to minimize such nonproductive behavior. When selecting the intervention platform, the quality of the intervention's behavioral support system needs to be considered.

*Ms. Marks judges that Super Solvers' behavior support as moderate (grade = 2). It incorporates executive function and behavior management components, but she is concerned that these supports are not sufficiently strong to address Daniel's challenges.*

***Integrating information on the first six dimensions.*** In terms of these first six dimensions, most standard intervention programs score higher on some dimensions than on others. Ideally, the special educator will have at least two programs to compare, along with deep knowledge of the student who is targeted for intensive intervention. Understanding the program's strengths and weaknesses according to the Taxonomy's dimensions, along with the target student's skills and strategies, helps the special educator judge an intervention for its utility as an intensive intervention platform for this target student. A good match minimizes the number of program adjustments over time.

## Individualization is a signature feature of special education. A validated process for individualizing intervention is *data-based individualization.*

*On the basis of her analysis of the Taxonomy's first six dimensions, Ms. Marks selects Super Solvers as Daniel's intensive intervention platform. The grades she assigned the Super Solvers intensive intervention platform, according to the Taxonomy's first six dimensions, are shown on the Taxonomy of Intensive Intervention Form (Figure 3's first column).*

We also note that special educators can often identify, before intervention begins, the dimensions on which the intensive intervention platform will fall short. In this situation, the special educator may incorporate adjustments to the program prior to implementation. For example, although Super Solvers' dosage is strong, Ms. Marks decides that Daniel's performance discrepancy requires an even stronger dosage. So she modifies Super Solvers from the standard 2:1 delivery to a one-on-one format. She notes this on the Taxonomy form with a plus mark on the Dosage row of the form (first column under *IIP*). This indicates she adjusted the platform prior to implementation.

At the same time, given (a) Daniel's history of difficulty with mathematics and his complex learning needs, (b) her knowledge that even high-quality validated intervention programs do not produce adequate outcomes for all intensive intervention students, and (c) the pressing need to boost Daniel's mathematics learning trajectory, Ms. Marks recognizes the importance of the Taxonomy's seventh dimension, individualization. This calls for identifying, in the set-up stage, the progress-monitoring system she will use to track Daniel's response to the platform. Later, in the implementation stage, individualization calls for a series of adjustments to the intensive intervention platform to make the platform effective for addressing Daniel's unique learning challenges.

***Dimension 7: Individualization.*** The Taxonomy's seventh dimension, *individualization*, is a signature feature of special education (e.g., L. S. Fuchs et al., 2012; McLaughlin, Shepard, & O'Day, 1995). A validated process for individualizing intervention is *data-based individualization* (DBI; D. Fuchs, Fuchs, & Vaughn, 2014; Stecker, Fuchs, & Fuchs, 2005). To implement DBI, teachers collect progress-monitoring data frequently and apply validated DBI decision rules on a regular basis to determine if the intensive intervention is producing adequate response for the target student. Whenever the data indicate the student is not on track to meet his year-end goal, the teacher adjusts the program in ways that extend or alter the intensive intervention platform.

This teach-test-revise-test DBI process continues over the course of intensive intervention. Randomized control trials demonstrate that this DBI process improves the reading, mathematics, and spelling outcomes of intensive-intervention students (Stecker et al., 2005). The NCII website (http://www.intensiveintervention.org/) provides resources for selecting progress-monitoring tools and for implementing DBI. (NCII resources are made available with support from the Office of Special Education Programs,

within the U.S. Department of Education.)

*In the set-up stage, Ms. Marks identifies the progress-monitoring system she will use to track Daniel's response to the Super Solvers intervention platform. Ms. Marks decides to use the progress-monitoring system that is embedded in Super Solvers. This progress-monitoring system provides CBM tests to be administered every 2 weeks. Each test, called the Super Challenge, is of equivalent difficulty, samples the program's curriculum in the same way, and includes 20 problems representing the fraction content addressed in Super Solvers. This Super Challenge CBM system has demonstrated reliability and validity. The Super Solvers manual provides directions for administering and scoring the tests and for engaging the student in the Super Challenge progress-monitoring system via the Super Solvers' executive function component. Students master the Super Challenge when they achieve a score of 20 (see Figure 2, in which the end point of the diagonal line signifies Daniel's goal).*

*Using the Taxonomy, Ms. Marks grades her selection of the progress-monitoring system on the Taxonomy of Intensive Intervention Form (Figure 3's first column, seventh row) in terms of evidence of the system's technical adequacy and its provision of validated decision rules for determining when adjustments to the intensive intervention platform are required to increase the probability of goal attainment.*

*Ms. Marks draws a dotted line connecting Daniel's first score (0) with this goal of 20 to show the rate of improvement Daniel needs to achieve if he is to meet the goal by the end of the program. Every few weeks, Ms. Marks reviews Daniel's progress. When Daniel's scores are consistently below the goal line or his rate of improvement is less steep than the goal line, Ms. Marks uses the Taxonomy to identify fruitful directions for further individualizing the intervention platform.*

We note that Ms. Marks is fortunate that Super Solvers incorporates a progress-monitoring system to track Daniel's progress. Few Tier 2 interventions embed a progress-monitoring system. Therefore, special educators typically must identify the progress-monitoring system that best reflects the goals and outcomes of the target student's intensive intervention program. Resources to help schools identify technically strong progress-monitoring tools for individualizing intensive intervention are available on the NCII website. (NCII's Progress Monitoring Tools Chart rating system addresses these criteria.)

## The Implementation Stage

This brings us to the implementation stage, in which the special educator reapplies the first six dimensions of the Taxonomy whenever the progress-monitoring data indicate that the student's response to the program is not adequate. Each time the special educator makes an adjustment to the intervention platform, she adds a column to the Taxonomy of Intensive Intervention Form (Figure 3). The column is labeled "Adjustment __; Week __" to indicate what number adjustment the column addresses and the week that adjustment was introduced. In the first six rows for that column, the teacher notes which dimensions of the platform were modified. In the seventh row for that column, the teacher grades the fidelity with which the DBI system was implemented. This includes (a) the accuracy with which data were collected and scored, (b) the faithfulness and timeliness with which decision rules were applied to the progress-monitoring data, and (c) the integrity with which the platform and all previous adjustments to the intensive intervention platform were implemented.

*Ms. Marks administers the first CBM just before she begins conducting the Super Solvers sessions with Daniel, while ensuring accurate administration and scoring of the CBMs, responsive decision making to the progress-monitoring system, and initial fidelity to the Super Solvers platform. As intervention proceeds, she collects CBM data every 2 weeks and graphs the scores (see Figure 2).*

*After Week 3, Mrs. Marks applies decision rules to the graphed data. This indicates that Daniel's progress to date is inadequate. As shown in Figure 2, in the first weeks of Super Solvers, Daniel's CBM performance increased by only 1 point, without mastery of any problem type. (For problem mastery, see the skills profile below the graph. Each bar shows performance on one weekly CBM for each of the six problem types included on every CBM. On the bar, each box shows a fraction. The number of problems included on each CBM for that problem type is the denominator; the number Daniel answered correctly on that CBM is the numerator. When skills are mastered, the special educator marks the problem type with a checkmark.)*

*After careful analysis of Daniel's CBM graph and skills profile, his performance during tutoring, and her initial analysis of the Super Solvers intervention platform ("IIP" column on Figure 3), Mrs. Marks decides that the Taxonomy dimensions appropriate for adjustment and individualization are alignment and behavioral support. Vertical dotted lines show when Ms. Marks introduced adjustments to the Super Solvers platform. In the ADJ1 (Adjustment 1) column, on the Alignment and Behavioral Support rows, she places a plus mark to indicate further intensification. In the Individualization row, she briefly summarizes her analysis of Daniel's struggle and needs.*

*In terms of alignment, Mrs. Marks's judges that Daniel's use of multiplication in the context of fraction problems, including fraction word problems, is laborious, detracting him from accurate higher-order thinking. She therefore adds 5 minutes of multiplication strategy instruction to each session. This includes 3 minutes of skip-counting practice and 2 minutes of multiplication fluency practice. In terms of behavioral support, Mrs. Marks judges that Daniel, although mostly cooperative and attentive, is*

*frustrated by frequently failing to earn Super Solver bonus points, due to inaccurate work. Ms. Marks therefore increases the number of opportunities Daniel has to earn bonus points and includes some easier problems within these opportunities.*

*As shown in his graph, Daniel's overall CBM score increased as a function of this adjustment to the intervention platform, and his skill with multiplication facts improved (see skills profile; Figure 2). After Week 7, however, Daniel's progress is still inadequate to assume goal attainment. Ms. Marks notes that he is struggling with hard comparing-and-ordering-fraction problems (see skills profile). After inspecting work samples, she decides that his weaknesses in deriving fraction equivalencies are due to his challenges in keeping track of his work.*

*She therefore introduces a second adjustment to the platform (see ADJ2), again on the alignment and behavioral support dimensions, to better address Daniel's needs. With this second adjustment to alignment, she adds to each session 5 minutes of fraction tile work to address concepts and strategies for deriving fraction equivalencies. With the second adjustment to behavioral support, she alters the behavior management program to require Daniel to attack hard comparing-and-ordering problems using the taught strategies and to check work with fraction tiles. With this second round of revisions to the platform, Daniel's progress accelerates nicely over Weeks 8 to 12.*

## In Sum

This case study illustrates how special educators and related personnel incorporate the Taxonomy of Intervention Intensity to systematize the process for (a) selecting a promising intensive intervention platform and (b) identifying fruitful directions for adjusting that platform to meet the target student's individual needs. The goal is to increase the quality of intensive intervention, and thereby improve student outcomes and help schools distinguish among levels of intensity in the intervention services they provide.

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# Teacher-Provided Positive Attending to Improve Student Behavior

Jonathan G. Perle

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*Alex is a new second-grade teacher whose classroom includes students both with and without emotional and behavioral disorders (EBD). She began her career feeling confident but* has *encountered difficulty with Chad, a student who frequently exhibits noncompliance and tantrums when he is unable to get his way. Although many experienced teachers have suggested Alex use positive attending to encourage Chad's appropriate behavior, she is embarrassed to admit that she never received specific training in this strategy and is unsure what to do; she suspects just saying "Good job" isn't enough. Although Alex realizes that Chad (and others in her class) would benefit from her using positive attending, she is unsure how to effectively use the technique.*

A teacher serves many important roles within a classroom, including an educator and a manager of child behavior. Despite their best efforts, teachers quite frequently observe students becoming off task or exhibiting disruptive behavior (e.g., calling out, arguing, noncompliance, tantrums). Specifically, inattention, overactivity, and noncompliance have long been cited as some of the most common areas of reported difficulty for schools (Axelrod & Zank, 2012; Goldstein, 1995). Research has concluded that children who demonstrate disruptive behaviors (e.g., students with EBD or attention deficit hyperactivity disorder) require the most positive reinforcement to remain appropriately behaved; however, they commonly receive the least (Barbetta, Norona, & Bicard, 2005). Of particular importance, a single student's off-task and disruptive behavior may affect not only his or her own learning but that of other children in the class. The evidence-based practice of positive attending (i.e., strategic use of labeled praise) has garnered what some believe is the strongest and most enduring evidence base to encourage and maintain positive classroom behavior (e.g., Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). For example, Sutherland, Wehby, and Copeland (2000) demonstrated that students' on-task behaviors improved when the teacher's behavior-specific positive attending increased, with subsequent student-related declines in positive behavior when the teacher decreased the attending. Such findings have been replicated and expanded upon by other works, with increases in teacher-provided positive attending being associated with increases in on-task behavior and numeracy enjoyment (Chalk & Bizo, 2004) as well as decreases in aggressive responding (Moffat, 2011).

As based on behavioral theory, delivering contingent positive attending (i.e., positive reinforcement in response to specific actions) when students engage in desired behaviors can lead to an increased likelihood that they will exhibit similar positive behaviors in the future (Kern & Clemens, 2007). Unfortunately, positive attending is infrequently taught as part of a teacher's training, which may be particularly problematic for newer teachers (Briere, Simonsen, Sugai, & Myers, 2015). Further, despite some resources discussing the subject matter in brief or in the context of larger school-based programs, the use of positive attending remains underutilized within classrooms (Sutherland, Wehby, & Yoder, 2002). Teachers and other educators or managers of child behavior need to be aware of evidence- and experience-based recommendations for effective implementation of positive attending. Although this article focuses on on-task and appropriate performance for students who exhibit disruptive behaviors as a result of their EBD, the practice may be applied to a variety of other EBD-related behaviors (e.g., may be used to emphasize improved social interactions and interpretation of social cues for students with interpersonal difficulties, behavioral control for students with emotional regulation challenges, brave behavior for students experiencing anxiety, happy or prosocial behavior for students experiencing mood difficulties) as well as with children without EBD as a general management strategy (Briere et al., 2015).

## Components of Effective Positive Attending

Teachers implementing positive attending in their classrooms should strive to be specific, immediate, consistent, frequent, and preventative. They should avoid criticism, derogatory feedback, and any student ability-focused attending in favor of positive and performance-centered attending (Table 1).

**Positive attending has garnered what some believe as the strongest and most enduring evidence base to encourage and maintain positive classroom behavior.**

### Be Specific

Although many teachers praise their students, research has suggested that such positive attending is often nonspecific and vague (e.g., "good job"; Brophy, 1981). Unfortunately, vague feedback does not inform the child of the behaviors that the teacher wishes to see more of, limiting efficacy. The effective use of a teacher's attention involves very concrete and specific instances of positive attending (Conroy, Sutherland, Snyder, & Marsh, 2008; Simonsen et al., 2008; see Table 2). In doing so, students are told exactly what they did correctly, providing incentive to engage in similar behaviors in the future. Each instance of positive attending should be realistic and not overly flattering so that the student believes the teacher is being genuine (McMahon & Forehand, 2005). For example, if a teacher wants

**Table 1. Components of Positive Attending**

| Component | Description |
|---|---|
| Be specific | A teacher should tell the student *exactly* which behaviors he or she is happy to see in order to encourage the student (e.g., "Great job raising your hand" instead of "Great job"). |
| Be immediate | A teacher should positively attend as soon as a desired behavior occurs so the student can associate the teacher's praise with the positive behavior. |
| Be consistent and frequent | A teacher can demonstrate the importance of the students' positive behaviors by attending to them consistently and frequently. Praising a behavior once every few hours may not be enough, especially for students with emotional and behavioral disorders. |
| Be preventative | A teacher can "catch a student being good" instead of waiting for problems to occur in order to prevent difficulties. |
| Praise the opposite | A teacher should consider the opposite of the student's disruptive behavior as a basis for positive attending (e.g., praise students for raising their hands if they frequently call out). |
| Avoid criticism and derogatory feedback | Derogatory teacher-provided statements may exacerbate a student's problematic behavior, whereas positive language may facilitate improved student behavior. |
| Focus on the student's performance | A teacher should focus positive attending on the student's performance instead of ability (i.e., attend to doing well on an assignment rather than intelligence). |
| Actively ignore disruptive behavior | If feasible, a teacher should immediately and consistently ignore disruptive attention-seeking behaviors. Ignoring should be brief (e.g., a few seconds), with the teacher looking for opportunities to positively attend to appropriate behavior. |

students to take out their books when instructed, as soon as a child begins the action, the teacher can respond by stating, "Great job taking out your book and following my direction." Because there is significant variability in students' behavior, a simple guiding principle is to ask oneself, "Do I want to see this behavior both now and in other settings?" If the answer is yes, this information helps to gauge when to positively attend (e.g., "Do I want to see students raise their hands both in my classroom and in other settings?"). Teachers who find themselves providing a lot of vague, nonspecific attending, like "Good job," should ask themselves either "Good job doing what?" or "What more do I want the student to do?" in order to improve specificity.

### Be Immediate

Teachers can maximize the impact of positive attending by providing it immediately following students' engagement in desired behaviors (Barbetta et al., 2005; Regan & Michaud, 2011). Immediacy allows children to tie together the positive feedback with the behavior they just completed. The more immediate a teacher can be, the more the student will associate the events. As an example, if students are instructed to take out their books, the teacher should immediately positively attend to those who comply before moving on to another task. If too much time passes between the student's behavior and the subsequent attending from the teacher, students may not draw as large an association between the action and the reinforcement, limiting the impact (Hester, Hendrickson, & Gable, 2009). Immediacy and emphasizing positive behaviors at the time of performance may prove especially helpful for children who are fast moving or exhibit attention-related difficulties (Antshel & Barkley, 2008).

### Be Consistent and Frequent

Although teachers do not want to be perceived as drill sergeants, positive attending is most effective when it is consistent and happens at a high enough frequency to foster repeated student practice of positive behaviors (Kapalka, 2009; Regan & Michaud, 2011). If a behavior is important (e.g., staying on task, following directions, remaining calm), students should know how much the teacher appreciates their demonstration of it through the recurrent attending over the course of the day. As with immediacy, students who exhibit attention-related difficulties–who may not hear or internalize the information the first time a teacher says it–may especially benefit from the strategy. There are no universal guidelines for how frequently to attend to each student; teachers may need to adjust their use of the strategy based on specific students' need or overall behavior. For example, if a student can go for 10 minutes before becoming off task or seeking attention, then initially attending at least once every 7 to 9 minutes may foster improved on-task behavior until the frequency of reinforcement can be reduced following repeated successes.

### Be Preventative

Because they are occupied with managing multiple aspects of the classroom, some teachers may inadvertently overlook positive student behaviors until significant difficulties arise and prompt intervention. However, not attending to a student until problems occur runs the risk of not reinforcing students for the times they do engage in positive behavior, limiting a teacher's ability to prevent the difficulties. Prevention has been described as both the most effective form of behavior management and the most efficient way of eliminating misbehaviors (Barbetta et al., 2005). *Antecedent intervention*, or structuring the environment to prevent problems and enhance motivation, holds multiple advantages as compared to waiting or "fixing" arising difficulties. In addition to preventing possible escalation of a student's disruptive behavior, antecedent interventions are quick acting, allowing for correction of an environment that is contributing to the problematic behavior, and can improve the instructional environment (Kern & Clemens, 2007). As part of the process, a teacher may strive to "catch students being good" to encourage spontaneous positive student behavior as it occurs (Conroy et al., 2008). If a student is naturally engaging in positive behavior, it is paramount that the teacher encourages these actions with specific and immediate positive attending. Failure to reinforce may result in the student's not recognizing that the teacher appreciates it and may lead to the student's not freely demonstrating similar behaviors in the future.

### Think About the Opposite

Positive attending can be utilized as a teaching opportunity by providing it in response to specific behaviors (Simonsen et al., 2008). Instead of telling students what not to do, and leaving a window for them to potentially engage in subsequent disruptive behavior (e.g., telling a student not to hit a student, in effect prompting kicking), teachers should be direct and specify what they would like students to do. Identifying positive behaviors means thinking of the opposite of the disruptive behavior. For example, for a student who frequently calls out without raising his hand, the opposite could be waiting his turn to speak or raising his hand; another teacher might positively attend to a student for using an inside voice if she is prone to yelling, praise a student for keeping hands to himself if he is prone to touching others or objects, or compliment staying in her seat if the student frequently leaves her seat.

### Avoid Criticism or Derogatory Comments

It is not uncommon for teachers to regress to derogatory talk and reprimands in response to student disruptive behavior (Hester et al., 2009). Unfortunately, it is often easy to underappreciate a student's ability to gauge a teacher's level of stress. This may be especially true for children with EBD (e.g., oppositional behavior), when a frustrated teacher exhibiting derogatory body language, voice volume, and speech may elicit further difficulties from the child (Kapalka, 2009). To encourage appropriate behavior, it is helpful for teachers to attempt to remain calm, in control, and positive, especially in times of high agitation. How a teacher responds in time of stress may dictate either alleviation or exacerbation of ongoing student-based concerns. A teacher remaining calm and telling a student, "When you finish your math work, then you can play with the blocks for 5 minutes" may motivate the student, whereas aggressively saying, "If you don't finish your math work, then you won't play with blocks" may lead to an outburst due to the student's feeling of being punished. As a guiding principle, teachers should strive to achieve a 4:1 ratio of positive to negative statements in their classroom for maximum benefit (Lewis & Sugai, 1999).

### Focus on the Student's Performance

When providing positive attending, it is important for teachers to consider which aspects of the child they are attending to. Teachers should avoid providing a lot of person-centered attending (e.g., "You're so smart," "You're a great speller") in favor of more performance- or process-centered attending (e.g., "You did a great job on that assignment," "I like how you tried very hard on that test"; Corpus & Lepper, 2007). Specifically focusing on the performance or process encourages a range of student behaviors (e.g., working carefully, working quietly, working well with others, performing well on a specific task) by providing positive feedback about competencies and successful strategies that can then be applied to future tasks (Corpus & Lepper, 2007). Person-centered positive attending could possibly harm students' self-worth because it is based on their abilities (i.e., factors that may be beyond his or her control, such as intelligence). Providing ongoing person-centered positive attending in which the student experiences only success can create feelings of incompetence, inadequacy, and lowered self-worth when the child ultimately experiences a failure (Corpus & Lepper, 2007; Dweck, 2007).

**Use of positive attending can and should transcend one specific room or teacher and be utilized across settings.**

### Where Should I Use This?

As with other types of behavioral support, positive attending can and should transcend one specific room or

**Table 2. Examples of Effective Positive Attending**

| Ways to begin the praise | Targets of the praise |
|---|---|
| I love that you are . . . | Following directions |
| I like that you are . . . | Staying calm after getting upset |
| You're doing an awesome job . . . | Keeping your hands to yourself |
| You're doing a great job . . . | Staying in your seat |
| Fantastic job . . . | Doing your work |
| I really appreciate that you are . . . | Helping [me], helping a peer |
| I'm really impressed that you are . . . | Turning in your work |
| It makes me very happy that you are . . . | Using nice words, language |
| I'm so proud of you for . . . | Using an inside voice |
| Awesome job . . . | Holding the door |
| You did fantastic . . . | Standing nicely in line |
| You did amazing . . . | Acknowledging you heard the instructions |
| Look at how great you are . . . | Listening |
| Nice work . . . | Saying "please," "thank you"<br>Making eye contact<br>Sharing<br>Cleaning up after yourself<br>Playing nicely with a peer<br>Accepting "no" |

teacher and be utilized across settings (Sugai & Horner, 2002), such as the playground, in the lunch room, and in other areas of the school where students frequently exhibit difficulties (e.g., situations with lower amounts of adult supervision). The more consistent the use is across settings and situations, the more students will understand what is expected, the faster they can adapt, and the less the direct positive attending may be needed in the future (Lewis & Sugai, 1999). To improve consistency, the primary teacher should coordinate with other staff members who manage specific students in different settings. For example, a music teacher who has a separate classroom may consult with the primary teacher to ensure that they are both utilizing positive attending in a similar manner. They also can collaboratively identify students who require more positive attending to remain on task, to improve students' behaviors in both settings.

### Active Ignoring

Teachers often indicate an inability to ignore disruptive behavior within the classroom when a student's disruptive behavior distracts others or leads to escalation (e.g., Kounin, 1970). However, it should be recognized that positive attending often works most efficiently when paired with active ignoring to deliver what is termed *differential attention*. Active ignoring occurs when a teacher systematically withholds attention from a student when that student engages in an undesired attention-seeking behavior that is ignorable (i.e., not a safety concern or property damage; Simonsen et al., 2008). Active ignoring should be used only when the function of the student's behavior is attention or tangible seeking and is not to escape a situation (Iwata, Pace, Cowdery, & Miltenberger, 1994).

Similar to positive attending, active ignoring should be immediate (i.e., as soon as the child engages in an undesired behavior that the teacher does not wish to encourage), specific, brief (e.g., 2 to 5 seconds), and overt (i.e., "black and white"; Hester et al., 2009). For example, a teacher who is ignoring a student whining may turn her head or back to explicitly demonstrate that she will not attend to the student. As soon as the student begins to exhibit the opposite of the disruptive behavior (e.g., speaking nicely or respectfully instead of whining), the teacher immediately positively attends to the student for utilizing appropriate behavior. Teachers

who are attempting to ignore disruptive behavior should provide no reinforcement—including not looking at or talking to the student, not talking about the student, and not responding (e.g., laughing, sighing, smiling) to any inappropriate attention-seeking behaviors.

It should be noted that ignoring attention-seeking behavior can result in an *extinction burst* (Lerman & Iwata, 1995), wherein a child escalates in the intensity, frequency, or duration of the ignored behavior before it ultimately diminishes as a result of learning that the behavior will no longer get a desired response (e.g., teacher attention). Although this can be frustrating for teachers, few students (or adults) give up a previously effective strategy without trying it again. Teachers can shorten or reduce an extinction burst by finding small windows of appropriate behavior to positively attend to in the middle of the student's disruptive behavior (e.g., the student is whining at the teacher but not at others). This can serve to provide the sought-after attention, but only once the student begins demonstrating desirable behavior. A teacher may tell a child, "I like that you're calming down. Now I can help you," during the 2-second window when the student begins taking breaths before whining again. Should the student begin whining again, the teacher should return to ignoring (or attending to other students) before the next window of appropriate behavior arises. The more "black and white" the positive attending and active ignoring is, the faster children will adapt. See Barbetta and colleagues (2005) and Hester and colleagues (2009) for more on active ignoring and differential attention.

## Evaluating the Use of Positive Attending

Teachers can evaluate both the degree of use of positive attending and the effectiveness of the use. Evaluation may involve an observer, who codes the frequency of or adherence to evidence-based principles of using positive attending and provides feedback (Sutherland, Copeland, & Wehby, 2001), having students rate their perception of the teacher's use (Metzler, Biglan, Rusby, & Sprague, 2001), self-monitoring through the use of a handheld clicker to quantify how often positive attending is provided to certain children (or the entire class; Kalis, Vannest, & Parker, 2007), or reviewing audio- or videotaped classroom sessions (Keller, Brady, & Taylor, 2005).

To determine the effectiveness of the strategy, teachers can monitor either the elicitation of student's positive behaviors and rewards or the need for discipline (Metzler et al., 2001). For the former, a teacher can define positively framed behavioral targets (e.g., raising hand, complying with instructions) or outcomes (rewards earned) to compare student performance from baseline (i.e., before implementation of positive attending) to post-use. Each behavior can be monitored and tracked through either live tracking (e.g., a tally sheet of each time a student exhibits specific behaviors) or taped observations. Data can then be graphed to show a visual representation of gains (Moffat, 2011). Alternatively, a teacher may define behavioral challenges (e.g., number of times a student calls out, exhibits an outburst, becomes off task, calls out, receives an office referral) to evaluate the reduction of disruptive behaviors.

### Strategies to Improve Skill Use

Similar strategies as those used to evaluate may also help teachers improve their utilization of positive attending. For example, Kalis and colleagues (2007); Duncan, Dufrene, Sterling, and Tingstrom (2013); and Simonsen, MacSuga, Fallon, and Sugai (2012) suggested using goal setting and self-monitoring techniques. Specifically, setting personal goals, monitoring the progress towards each goal, and self-prompting each day (e.g., set a goal of praising once every 10 minutes and using a timer or phone-vibrate feature as a reminder; creating a visual prompt such a sign saying "PRAISE!" on the board or desk) may prove especially helpful for motivated teachers. Simonsen and colleagues (2012) concluded that teachers preferred a handheld counter to provide them with a quantitative measure of how they were doing (i.e., amount of praises for student target behaviors). This method of self-monitoring can also allow for a daily baseline to either match or beat the amount of positive attending used for subsequent days. Additional strategies may include dynamic role-play with other teachers, prompting or coaching from a paraprofessional or other staff member in the classroom, and reviewing audio- or videotaped sessions (Duchaine, Jolivette, & Fredrick, 2011; Gable, Hester, Rock, & Hughes, 2009).

*After practicing the use of positive attending with a colleague who pretended to exhibit similar behaviors as Chad, Alex focuses her energy on the student himself. First, through observation and monitoring, she determines that Chad exhibits off-task and disruptive behavior once every 20 minutes. Alex uses that information to set a personal goal of positively attending at least once every 15 minutes to prevent Chad from exhibiting such problematic behaviors. To monitor her performance day to day, she uses a handheld clicker that she clicks each time she positively attends to Chad for his positive behavior (e.g., following directions, working quietly, raising his hand). Because she is also busy with other students, Alex writes PRAISE! on the board and sets her smartphone to vibrate once every 15 minutes. This strategy allows for both visual and tactile prompts. Finally, to evaluate her performance, Alex gets permission from both the school and parents to video record her classroom. She reviews each recording to find additional opportunities to attend not only to Chad but to other students who may benefit.*

### Factors for Consideration

As with any intervention, there are considerations regarding students' age, gender, culture, and overall function of the disruptive behaviors that must be considered to ensure proper utilization

and modification (Bernal, Jimenez-Chafey, & Domenech Rodriguez, 2009; Hanley, Iwata, & McCord, 2003). For example, although research suggests that positive attending can be helpful for many, evaluation of the behavioral function may prove especially important for those children not driven by teacher attention (e.g., motivated by work avoidance) and who may require more specific interventions beyond positive attending alone (Germer et al., 2011). In addition, the age and culture of the student may dictate how the teacher modifies language when addressing the student in order to ensure a developmentally and culturally sensitive approach. As Brophy (1981) suggested, older students may exhibit different preferences for the types of teacher attention received as compared to younger students (e.g., more "matter-of-fact" and less childlike language).

Finally, the amount of public attention should also be considered. Burnett (2001) provided support for the idea that positive attending delivered publicly by a teacher, although desired by some students, may be perceived as a punishment by others. As such, a teacher would be wise to determine the student's preferences (i.e., use knowledge of the student, ask the student) for public versus private positive attending prior to implementing the skill.

## Common Reactions, Questions, and Concerns

### How Can I Focus on Just One Student When I Have So Many?

Although positive attending can be beneficial for a target student with EBD, its usefulness is maximized when it is not restricted to one or two students but rather used with the whole class (Kern & Clemens, 2007). If positive attending is conducted effectively, having more on-task students may lead to less frustration and a higher amount of teacher energy to work more with those requiring additional support. Classroomwide use may also help with peer modeling, where the actions of others serve as a social prompt for the target student (Schunk, 1987). For example, if Chad is calling out while Kevin and Kelly are raising their hands, the teacher can positively attend to Kevin and Kelly for raising their hands and provide a prompt for Chad by stating, "Kevin and Kelly are doing a great job raising their hands to answer. I know others are going to try hard to raise their hand and wait their turn too." As soon as Chad appropriately participates, he too can receive the positive feedback.

### I Already Praise!

Although teachers commonly utilize basic praise, as previously discussed, that praise is often not provided in an optimal manner. Positive attending can enhance the positive foundations that teachers already employ. Essentially, it is not *that* teachers attend but *how* they attend that is important. For many students with EBD, basic or infrequent attending may not be enough to instill meaningful effect (Barbetta et al., 2005). By making minor adjustments to their use of praise, teachers may be able to further improve students' behavior.

### Won't This Take a Lot of Time?

One concern teachers have regarding the use of positive attending is that it may take additional time and effort to implement. Although no known work has quantified such an effect, experience (e.g., teacher feedback) has suggested that positive attending may have the opposite outcome and can improve time management. Providing a labeled praise and patting a student on the back (e.g., a teacher may include physical touch, such as a pat on the back, high-five, or fist bump, in combination with the positive attending to improve potency of the positive attending; Little & Akin-Little, 2008) take mere seconds each time they are used. Ultimately, a teacher spending a combined few minutes *each day* (e.g., a few seconds each time) may be more beneficial than having to spend multiple minutes *each time* students becomes off-task in order to redirect them and those influenced.

### Only Praise?

Teachers can vary their use of positive attending by integrating other strategies. Similar to clinic- and classroom-based child-focused programs (e.g., Teacher-Child Interaction Therapy, McIntosh, Rizza, & Bliss, 2000; Teacher-Child Interaction Training, Lyon et al., 2009; Parent-Child Interaction Therapy, Brinkmeyer & Eyberg, 2003), additional techniques may include reflections (e.g., if a student proclaims, "I got an A!," the teacher can reflect, "You got an A!"), imitations (e.g., if a student raises his hand, the teacher can also raise her hand and smile to mimic), and descriptions (e.g., if a student takes out a book independently, the teacher may nod and state, "You took out the book and started reading without me even having to tell you to do it"; Brinkmeyer & Eyberg, 2003). In supplementing labeled praise, use of these strategies can also demonstrate teacher approval of student behavior in order to encourage future use of the same behavior.

## Conclusion

Positive attending is a technique that requires minimal time, needs no preparation, costs nothing, and promotes learning (Lampi, Fenty, & Beaunae, 2005). Although the strategy may not be the only management tool a teacher uses, and there are some limitations (see Henderlong & Lepper, 2002), positive attending can be powerful for a range of students across ages and presenting concerns, as well as a vital component of many clinic- and school-based behavioral treatment programs for off-task and disruptive behaviors (e.g., Parent-Child Interaction Therapy, Brinkmeyer & Eyberg, 2003).

For additional resources on general classroom management, teachers may explore such books as *Strategies for Addressing Behavior Problems in the Classroom* (Kerr & Nelson, 2010) and *Eight Steps to Classroom Management Success: A Guide for Teachers of Challenging Students* (Kapalka, 2009), as well as online materials from the

American Psychological Association (Kratochwill, DeRoos, & Blair, 2016; http://www.apa.org/education/k12/classroom-mgmt.aspx) and the Institute for Education Sciences (Epstein, Atkins, Cullinan, Kutash, & Weaver, 2008; http://ies.ed.gov/ncee/wwc/pdf/practice_guides/behavior_pg_092308.pdf).

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# Designing and Implementing Group Contingencies in the Classroom

## A Teacher's Guide

Jason C. Chow and Allison F. Gilmour

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*The second-grade team was stumped. At the beginning of the year, team members had joked about their angelic students, but the honeymoon was over. There were not too many big behavior problems, but, as Mr. Finch put it, there was enough going on to eat into instructional time. Students called out, talked during seatwork, and, most irritating, constantly yelled out the teacher's name to get attention. When Ms. Smith brought up student behavior problems at the team meeting, there was a sigh of relief; at least everyone was having the same problems. Ms. Smith said, "It feels like I'm constantly putting out fires instead of teaching!" The rest of the team agreed.*

*The team decided to invite the special education teacher, Ms. Strong, to their next meeting. They explained their problems and nearly begged Ms. Strong for help. Ms. Strong was more than happy to help; most teachers asked for her guidance about individualizing instruction, but she was also well versed in classroom management. "One thing we're worried about," said Mr. Finch, "is that we all are having behavior problems at different times. I need help during large group instruction but Ms. Smith wants help when she's working with small groups of students."*

*After listening to the team, Ms. Strong had an idea. "Have you heard of a group contingency?" she asked. She looked out at the blank faces. Ms. Strong laughed. "You'll love this. It's a behavior management tool that is completely adaptable to your needs, and research shows that it works!"*

A *group contingency* is a classroom management system designed to proactively support appropriate classroom behavior. Typically, groups or teams of students are rewarded for exhibiting appropriate or desirable classroom behaviors rather than being punished or reprimanded for exhibiting inappropriate or undesirable behaviors. Research on behavior management strategies that incorporate group contingencies have found that these programs are generally effective for improving student academic and social outcomes and that they may change teacher behavior, increasing teachers' attention to, and praise of, appropriate classroom behaviors (Barrish, Saunders, & Wolf, 1969; Kamps et al., 2011; Wills et al., 2009; Wills, Iwaszuk, Kamps, & Shumate, 2014). Group contingencies are a peer-oriented program that focuses on preventing problem behavior by reinforcing appropriate behavior. Better yet, they are efficient, easy to use, and adaptable to match different classroom contexts. Broadly, these preventative interventions include three primary components: establishing classroom expectations, explicitly teaching the expectations, and reinforcing the established and taught expectations. Group contingencies are particularly useful as more students with disabilities are included in general education settings and as special educators work collaboratively with general educators to support student behavior within tiered support systems.

## Students With Disabilities in the General Education Classroom

Sixty percent of students with disabilities spend more than 80% of their time in general education classrooms (National Center for Education Statistics, 2013), and students with disabilities may exhibit more challenging behavior than their peers without disabilities (Blacher, Howell, Lauderdale-Littin, Reed, & Laugeson, 2014). However, many teachers may not be prepared in classroom management practices (Greenberg, Putman, & Walsh, 2014). As special education teachers work with general education teachers to support students with disabilities in general education classrooms, special education teachers likely need to address student behavioral needs in addition to academic needs. Group contingencies are easy to implement in the general education classroom to support the behavior of students with disabilities, and they offer an opportunity for collaboration between special and general education teachers.

## Current Trends: Multitiered Systems of Support

In recent years, school districts have increasingly implemented multitiered systems of support (e.g., response to intervention, positive behavior supports) in an effort to meet the academic and social needs of all students. School-wide Positive Behavioral Interventions and Supports (SWPBIS) is a decision-making framework that guides the selection, integration, and implementation of evidence-based academic and behavioral practices for improving academic outcomes for students (National Center of Positive Behavioral Interventions and Supports, 2013). The SWPBIS framework promotes a three-tiered approach with Tier 1 supports that are universal and available to all students (Sugai & Horner, 2009). Within the SWPBIS framework, group contingencies are designed for implementation at the Tier 1 level but allow for adaptations to be made that are specific to individual student needs. For example, if a student with a behavioral disorder or attention-deficit hyperactivity disorder is in a classroom with a group contingency in place, the behavioral goals on the student's individualized education program (IEP) can be incorporated into the universal program. Effective Tier 1 programs may help to prevent behavior problems frequently exhibited by students with disabilities and help these students be more successful in general education classrooms. Group contingencies are designed to be pragmatic and easy to implement; they support all students in the classroom; and they provide an opportunity for special education teachers to work collaboratively with general education teachers. The adaptability of universal behavior programs allows for student-specific modifications to be made within the context of the classwide intervention.

Although group contingencies are receiving more attention as Tier 1 interventions under SWPBIS, group contingencies are not a new development. In fact, a number of standard protocols exist, including the Good Behavior Game (GBG; Barrish

et al., 1969) and the Class-wide Function-Based Intervention Teams (CW-FIT; Kamps et al., 2011; Wills et al., 2009). As part of GBG, the teacher divides the students into teams and defines acceptable and unacceptable classroom behaviors. Each time that a member of the team exhibits an undesirable behavior, the team receives a mark. After receiving a specified number of marks, team members do not receive access to a reward. In this way, the group contingency supports the relation between GBG and improved student behavior.

Another "off the shelf" group contingency is CW-FIT. The teacher provides explicit instruction to students on desired behaviors before dividing them into teams. The teacher provides verbal praise and points to teams exhibiting the desired behaviors at prechosen intervals. At the end of the game session, the teams that have met the predetermined point goal access a small reward. CW-FIT is emerging as an effective group contingency for improving student on-task behavior (Kamps et al., 2011;Wills et al., 2014).

## Designing a Group Contingency

Some teachers may prefer to create their own group contingency programs instead of relying on standard protocols, such as GBG and CW-FIT. Although the existing programs are adaptable, teachers can easily design group contingencies to match the needs of their classrooms and students. In this section, we walk through seven steps to design a group contingency for your classroom:

1. Choose the target behaviors.
2. Choose your groups.
3. Determine how groups earn points.
4. Decide how you will award points.
5. Choose who awards the points.
6. Determine a schedule.
7. Select rewards.

### Choose the Target Behaviors

The first step in designing a group contingency is choosing the behaviors that you want students to exhibit. The target behaviors should be clear, positively stated, and easy for students to understand. You may already have these behaviors posted as rules in your classroom, but make sure that they focus on the behavior that you want students to exhibit. Take some time to explicitly teach or reteach these behaviors to students, and make sure that the behavioral expectations are posted in your classroom in a spot that is easy for students to see and for you to refer to. Include modeling of the desired behaviors and practicing the behaviors as a group. Students who have behavioral goals in their IEPs may benefit from having these goals incorporated into a group contingency. If you are providing support for students' behavior in a general education classroom, you should include a specific rule that addresses the needs of the student with a disability whom you are supporting. This way, the student is not singled out but the individual's behavioral needs are still addressed.

**Broadly, these preventative interventions include three primary components: establishing classroom expectations, explicitly teaching the expectations, and reinforcing the established and taught expectations.**

*The teams had developed four rules at the beginning of the school year: use kind words, keep your hands and feet to yourself, don't call out, and do your work. "These are good rules," said Ms. Strong, "but the directions for a group contingency say it's important to have the rules positively stated. How about 'raise your hand to get the teacher's attention' instead of 'don't call out'?"*

*"Sounds great," said Mr. Finch. "I think that my students could use a refresher on the rules."*

*"That's a really good point," said Ms. Smith. "I know that all of you went over the rules at the beginning of the year, but I think that some students may benefit from explicit instruction on the rules. Instead of just reading them, try showing the students what following the rules look like. Provide some examples and nonexamples."*

*The other teachers agreed to go over the rules with more modeling and post the rules on their classroom walls.*

### Choose Your Groups

Group contingencies rely on teams of students to support behavior. Not only does this approach promote cooperation, but it also prevents the singling out of students for undesirable behavior and allows you to address the behavior of multiple students simultaneously (Gresham & Gresham, 1982; Little, Akin-Little, & O'Neill, 2015). Group students into similarly sized teams based on proximity. You may want to create the groups according to classroom seating arrangements or instructional groups. However, if instructional grouping results in a team that includes all the students with challenging behavior, you may need to reconsider using these teams. Part of the success of group contingencies is that peers act as models of appropriate behavior and can provide prompts to students within the group. If all students in the group struggle with behavior, they may not be able to support one another. In addition to the composition of student groups, it is important that students clearly see the team to which they are assigned, and it is easier for the teacher if the teams are clearly defined.

Sometimes, you may be working with only a few students at a time—for example, during pullout (resource) instruction. You could elect to use the entire class or pullout group as one group, or you can set up a behavior management system using these same steps but with

teams consisting of only one student. The students will still have the same point goal and reward. Sometimes this is most appropriate depending on the setup of your classroom and the characteristics of your students.

*After target behaviors are selected, teams needed to be created. "This part is easy!" said Ms. Smith. "I want to use a group contingency during small group instruction, so I will use my instructional groups." Mr. Finch's situation was a little more difficult. He planned to use a group contingency during the morning meeting, when all the students were sitting on the carpet. He had one student, Sarah, who seemed to enjoy getting into trouble with the other students. He expressed his concerns to Ms. Strong, who had a number of suggestions. "It can be tricky to have the students in teams during carpet time. What if you have them sit in rows and make each row a group? I agree that having Sarah on a group might be a problem. What about using an independent group contingency? You can have goals for the whole class but meeting the goal depends on the individual student. Maybe try that out with Sarah?"*

*Mr. Finch looked worried. "I'm not sure I can track the progress of all 17 students at once while teaching."*

*"Good point," said Ms. Strong. "I don't love singling students out, but maybe for now Sarah is on a team of one? That might make it more manageable to award points. She'll still have the same goal and follow the same rules, but this way you can give her more individualized attention when she's meeting the expectations. See how Sarah does, and maybe she can join a group later."*

### Determine How Groups Earn Points

Studies of group contingencies include three ways that groups can earn points: interdependently, dependently, or independently. An *interdependent group contingency* is when everyone in a group must be exhibiting the desired behavior to earn a point. If one student in a group of four is not following the rules but the other three students are, the team would not receive a point.

**The first step in designing a group contingency is choosing the behaviors that you want students to exhibit. The target behaviors should be clear, positively stated, and easy for students to understand.**

In another approach, a group earns points as part of a *dependent group contingency*, where certain members of the team represent the entire group. For example, you may be concerned with the behavior of only a specific student. When this student is following the rules, the entire team earns a point without depending on the behavior of the other teammates. Finally, an *independent group contingency* is when all students follow the same rules, have the same goal, and access the same reward, but they obtain the reward based on their individual behavior (Theodore, Bray, & Kehle, 2004). Independent group contingencies are particularly useful if some students sabotage the progress of a group. In this type of contingency, students are rewarded according to individual behavior but with the same expectations for all students. Of course, tracking points for an independent group contingency with a large class may be burdensome, but this approach is useful during small group or pullout instruction. These three types of group contingencies may improve student behavior (Ling, Hawkins, & Weber, 2011; Theodore et al., 2004; Wright & McCurdy, 2012); however, interdependent group contingencies are usually preferable. Interdependent group contingencies make clear that behavioral expectations are for all students while encouraging teamwork and are easier for teachers with a large number of students to successfully implement.

### Decide How You Will Award Points

*Now it was time for the teachers to decide how to assign points. The team decided to use an interdependent system where everyone on the team has to exhibit the behaviors for the team to earn a point. "This makes the most sense to me," said Mr. Finch. "It should help the students work together and support the behavior of other team members."*

*"How many points should the goal be?" asked Ms. Smith. "I want it to be challenging but obtainable."*

*"Excellent point," said Ms. Strong. "At the beginning, I would start with an easier goal. This will let the students learn the gain and access the reward. We don't want them to feel like the goal is impossible and experience failure at the beginning."*

*"You know, it might be good if we use the data from Sarah's functional behavior assessment to help figure out the goal," Mr. Finch suggested to Ms. Strong. "That way I can look at her current level of disruptive behavior and set a class goal that isn't too hard for Sarah to meet."*

*The team agreed that an easier goal could help students start on the right path and that the goal could become increasingly difficult over time.*

You can award points using a reward system or using response cost. A reward system is when teams earn points when they are exhibiting the desired behaviors. This system provides recognition to students for following rules and is a positive approach to classroom management. Conversely, teams lose points for each undesirable behavior under a response cost system. Response cost can be useful when students are engaging in more severe problem behavior, but generally a reward system is a better and more positive approach. The response cost approach provides attention and reinforcement

(depending on the student) to the behavior that you are trying to eliminate. Attention frequently acts as reinforcement and can maintain undesirable student behavior (Kodak, Northup, & Kelley, 2007). In contrast, a reward system provides attention and reinforcement to the behaviors that you want students to exhibit.

*"It seems to me that rewarding points is a lot more positive than response cost," said Ms. Smith. "I agree—and it better fits the school approach to positive classroom management," said Ms. Strong. "What about when students break the rules? Can I take away points?" asked Mr. Finch.*

*"I wouldn't," said Ms. Strong. "It sends a mixed message to students, and it gives attention to the behavior that you don't want to see." The group decided to reward points to teams for following the rules and agreed not to take away points.*

### Choose Who Awards the Points

The next step in designing a group contingency is deciding who keeps track of team behavior and awards points to each group. Groups may self-monitor (Briesch & Chafouleas, 2009), or the teacher may monitor and reward points. Under self-monitoring, when it is time to award a point, the group reflects on if it was following the rules and records if it earned the point on a group point chart. Self-monitoring is a good approach when you trust that students can successfully manage their behavior and when the students respond well to the other members of the team.

If you feel that your students cannot be trusted to reliably observe and assign points, teacher monitoring is a better approach. Under a teacher-monitored approach, the teacher decides if each team has earned the point. Teachers often rely on teacher monitoring when implementing a group contingency program and transition into a self-monitoring approach once students understand the program and the behaviors needed to earn points. Teachers can also use classroom support personnel (e.g., paraprofessionals, parent volunteers, student teachers) as another strategy for keeping track of awarding points.

*When deciding if points should be teacher or student monitored, Mr. Finch and Ms. Smith said in unison, "Teacher monitored." Ms. Strong laughed. "That should work, but you may want to let students self-monitor once they get a hang of the game. I've seen it work!"*

*"We may need to slightly adapt this for Jonathan," Ms. Strong said to Ms. Smith. Jonathan has a visual impairment, and Ms. Strong was concerned that he would not be able to see the class point chart. "Why don't I make him a portable point chart so that he will be able to track and see his group's points?"*

*"Oh good idea!" said Ms. Smith. "Actually, it might be helpful if you come in the first day that I use a group contingency and help with his group. Could you show Jonathan's group members how to mark the team points on his personal point chart? I definitely want him to be able to see his progress toward the goal."*

### Determine a Schedule

There are three components to this step in designing a group contingency: length of the contingency, frequency of awarding points, and when your students access their reward. First, think about how long the contingency should last. You may want the group contingency to take place during a particularly challenging transition, small group instruction, or a specific time of the day. The program works best during a time with a specified start and end, rather than all day. When first implementing a group contingency, you will want to plan for a shorter amount of time so that students more quickly access the reward. Over time, you can extend the length of the group contingency.

Second, consider how frequently you want to award the teams points. There may be natural times during a lesson to stop and award points (e.g., when students move to new stations), or you may want to use a timer to specify a interval of time. It is best to use a shorter amount of time (i.e., to provide more opportunities for teams to earn points) when you are beginning implementation. This provides students with more opportunities for behavioral feedback and experiencing success. The length of time between awarding points can vary according to student need and what fits best with your lesson.

Third, consider when the students will access the reward. Immediate access is preferred over waiting until later in the day or week to access the reward. When deciding when to play the game, keep in mind a good time for students to receive the reward. If you do need to provide the reward later—for example, when providing additional recess or lunch in the classroom—make sure to clearly state which teams won the reward and when they will receive the reward.

*Ms. Smith worked through her schedule first. She planned to use a group contingency during small group instruction. The groups rotated every 15 minutes, but she was worried that this was too long of an interval for second-grade students. She decided to set a timer for 5 minutes and give out points every time the timer went off during the entire 45-minute period of small group instruction. Small group instruction was right before lunch, so she planned to give 3 minutes between instruction and lunch to give the winning teams their rewards.*

*Mr. Finch planned to use a group contingency during the 30-minute morning meeting. He felt like some of his students would have a hard time following the rules at first so he decided to set a timer for every three minutes, hoping to make the interval longer as students adjusted to the game. The end of morning meeting also seemed like a good time to give students their rewards.*

### Select the Rewards

The rewards for a group contingency do not have to be large or expensive.

Remember: All teams can "win," so you will potentially be providing a large number of rewards. To identify rewards, use a preference assessment to determine what students like. Preference assessments ask students to identify activities and items that they like (Northup, 2000). Preference assessments can be administered individually or as a group in either oral or written form. Some examples of creative rewards include watching a short YouTube video, having a 3-minute dance party, doing classwork in a colorful pen, and taking shoes off during the next activity. It is important to vary the reward to keep a group contingency exciting and interesting to your students.

The results of the preference assessment may show that some students have very specific interests and may need to be working for a reward different from that of the group. This is a helpful adaptation and may be particularly important for students with disabilities. For example, the second author taught a student with autism who was not interested in a noisy class dance party but loved reading about elevators. This student had a separate reward from the class; instead of a dance party, he used the time to read about elevators on Wikipedia. The student still participated in the game but had a personalized reward that was more reinforcing to him than the group reward.

Begin the program for the day by stating the reward that students will be working toward. We suggest two approaches to choosing the reward. First, you can choose the reward. This prevents any discussion among students over what is fair or what the reward should be for the day. Second, some teachers write all the possible rewards on slips of paper or popsicle sticks and choose a random reward. This approach can add another fun element to a group contingency.

Another adaption to stating the reward at the beginning of a group contingency is to have your students work toward a surprise reward. Sometimes a group of students will not find a reward as motivating as other students. The surprise reward can add a fun element of suspense to the game and prevent students who are not interested in the selected reward from failing to buy in to the game and practice exhibiting desirable classroom behavior.

*The team brainstormed possible rewards. "It's important to me that they're free and don't take a lot of time," said Ms. Smith. The team came up with a number of activities and created a survey for students to circle the activities that they liked the most. Ms. Strong volunteered to print the students' chosen activities on cardstock so that the teachers could cut the rewards out and select them from a bag each day. Mr. Finch had an important question for Ms. Strong: "What should I do with the teams that don't win?"*

*"Teachers ask me this a lot," said Ms. Strong. "I've noticed that students can be upset about this when they are first learning the game. Make sure to let them know that they can earn the reward tomorrow by following the rules. Don't dwell on it too much, and make sure that the teams that don't win have something to work on while the others receive a reward. I think you're ready to implement your group contingency!"*

## Keys to Success and Potential Pitfalls

Teachers may encounter a few common challenges when designing and implementing a group contingency. First, some students may not seem to respond. Consistent with the SWPBIS framework, a small number of students may need more intensive and individualized interventions, such as check-in/check-out (e.g., Todd, Campbell, Meyer, & Horner, 2008) or even individualized behavior support plans, but there are adaptations that can make a group contingency more effective for these students.

If you find that your students seem disinterested, revisit your rewards, and make sure that the reward is desirable for your nonresponding student. Also revisit the goal and the frequency with which points are awarded. Setting an easier, more obtainable goal can provide an opportunity for students to experience success. Awarding points more frequently presents more opportunities for reinforcing the desired behavior and provides more frequent reminders to students to correct their behavior. If a team consistently fails to meet the goal, try using bonus points in between normal point intervals to draw attention to desirable behavior.

**Instead of using a reprimand, praise a student nearby the misbehaving group, or use a bonus point to remind groups of what they should be doing.**

Although implementing a group contingency can allow for more opportunities to provide attention to desired behaviors, implementation may require some adjustments to teaching. For example, it can be difficult to ignore students who are not following the rules, while providing positive feedback to others; it is much easier to focus on undesirable behavior because it can be very disruptive and distracting. If you find that students' behavior has not changed as a result of a group contingency implementation, pay attention to the number of reprimands that you are using. Instead of using a reprimand, praise a student near the misbehaving group, or use a bonus point to remind groups of what they should be doing. In doing this, you are highlighting—in front of the whole class, including the misbehaving student—the behaviors that you want to see and demonstrating how rewarding it can be to exhibit desired classroom behavior. When teachers first start their group contingencies, we recommend they be

cognizant of the importance of changing their own teaching behaviors (e.g., praising students who are doing what you want them to do, instead of scolding students who are off task). This may be even more important when you are helping others (e.g., general education teachers, other special education teachers). However, increasing attention to positive behavior and allowing opportunities for success by setting achievable goals are keys to a successful group contingency.

*The second-grade team was meeting a few months later when Ms. Strong walked by. They called her into their meeting. "I can't thank you enough!" said Ms. Smith. "The first couple days of a group contingency were a little rough, but now my class loves it, and I finally have enough time to teach."*

*"And I no longer have students constantly calling out my name," shared Mr. Finch. "I like how flexible the group contingency is. I've even started playing it as a surprise during other lessons when the students need a little extra behavior support."*

## Conclusion

Group contingencies are a positive, proactive classroom management technique that works well as Tier 1 of a multitiered system of behavior support. These programs are adaptable to student and classroom needs and work well to support the behavior of students with disabilities in general education classrooms. Off-the-shelf programs exist, but teachers can also follow these seven steps for designing a group contingency to match their needs as well as the needs of their individual students.

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# 10 Research-Based Tips for Enhancing Literacy Instruction for Students With Intellectual Disability

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In the past 2 decades, researchers (often working closely with parents, teachers, and other school staff members) have conducted studies that have substantially increased understanding how to effectively teach children and adolescents with intellectual disability (ID) to read. This research focus has been fueled by increased societal expectations for individuals with ID, advocacy efforts, and legislative priorities (e.g., strengthened accountability standards). Findings from this body of work indicate that children and adolescents with ID can obtain higher levels of reading achievement than previously anticipated (Allor, Mathes, Roberts, Cheatham, & Al Otaiba, 2014). Recent research also suggests that the historic focus on functional reading (e.g., signs, restaurant words) for this population of learners is likely too limited of a focus for many (Browder et al., 2009). Research outcomes suggest that integrating components of traditional reading instruction (e.g., phonics, phonemic awareness) into programs for students with ID will lead to increases in independent reading skills for many (Allor, Al Otaiba, Ortiz, & Folsom, 2014). These increased reading abilities are likely to lead to greater postsecondary outcomes, including employment, independence, and quality of life. Unfortunately, many teachers remain unsure of how to best design and deliver reading intervention for students with ID.

We offer a set of 10 research-based tips for special education teachers, general education teachers, and other members of IEP teams to consider when planning literacy instruction for students with ID in order to maximize student outcomes. For each tip, we describe our rationale for the recommendation and provide implementation guidance. Our Literacy Instruction and Support Planning Tool can be used by team members to organize information to guide planning. Our aim is to provide educators and IEP team members with a framework for reflecting on current reading practices in order to make research-based adjustments that are likely to improve student outcomes.

## The Conceptual Model of Literacy

Browder and colleagues (2009) proposed a conceptual model for early literacy instruction for students with severe developmental disabilities. We believe their framework provides guidance for designing and delivering literacy instruction for all students with ID. We used Browder et al.'s model to develop the Literacy Instruction and Support Planning Tool that IEP teams can use to guide decision making (see Figure 1). We encourage readers to obtain Browder et al.'s original article, however, for additional detail on the conceptual model.

Browder et al.'s (2009) model includes two primary components. The first component offers guidance on considering instructional priorities, supports, and access opportunities; the second provides direction for considering the instructional emphasis. For the first component, Browder et al. outlined two primary literacy goals: increasing access to literature and increasing students' independence as readers. Within the initial goal, the emphasis is on ensuring opportunities are provided for students to access literature (e.g., adapted books, time for literacy) and considering features of instruction necessary to increase students' abilities to access literature (e.g., task analysis for read-alouds, text awareness). Strategies for increasing reading independence include designing explicit reading instruction (e.g., phonemic awareness, phonics, comprehension) and ensuring the student has opportunities to apply and generalize reading skills (e.g., application of skills in novel texts, instruction to generalize reading skills into functional activities).

For the second component of the model, Browder et al. highlighted how the instructional emphasis will likely change as students' grade level increases. The authors suggested that learning "how to read" will be a prominent focus for many elementary-age students and that "functional reading" may gain greater emphasis as students advance to middle and high school. Browder et al. noted that access to age-appropriate literature should remain a focus across all grade levels—indeed, across the life span.

## Research-Based Tips

### Tip 1: Keep Big-Picture Goals in Mind

When thinking about literacy instruction, it may be tempting for many teachers and parents to focus on goals for the next calendar year and subsequently to devote limited time to looking at the bigger picture. We think big-picture visioning is important even in the early elementary school years. It can be helpful to pause and have team members spend a little time thinking about longer-term outcomes and the amount of time in which these outcomes are to be achieved.

**Children and adolescents with ID can obtain higher levels of reading achievement than previously anticipated.**

Browder et al.'s (2009) model can help IEP team members contextualize planning in at least two important ways. First, the model provides a reminder that it is essential that literacy instruction for students with ID focus on increasing students' independence as readers through reading instruction and opportunities to apply and generalize reading skills. Research has demonstrated that appropriately designed, targeted literacy instruction can lead to greater academic outcomes for children and adolescents with ID than previously thought feasible (Allor, Mathes, et al., 2014; Bradford, Shippen, Alberto, Houchins, & Flores, 2006; Browder, Ahlgrim-Delzell, Courtade, Gibbs, & Flowers, 2008; Browder, Ahlgrim-Delzell, Flowers, & Baker, 2012). Further, Wei, Blackorby, and Schiller (2011) demonstrated that adolescents with ID continue to show gains in reading skill across the high

**Figure 1. Literacy Instruction and Support Planning Tool**

**Directions:** Review Tips 1 and 2 (Section A). Use the Discussion Points to faciliate discussions. Complete Sections C through F. Then, review Tips 3 through 10 (Section B) and use the additional Discussion Points to focus conversation around planning appropriate Specially Designed Instruction and supports to increase the student's reading abilities and access to literature.

| | Tips | Discussion Points |
|---|---|---|
| **Section A: Focus on instructional planning** | 1. Keep big picture goals in mind as you plan. | ☐ Consider broad goals for student over next few years.<br>☐ Discuss post-secondary goals.<br>☐ Review alignment of reading goals with broader goals.<br>☐ Consider instructional balance between learning to read and functional reading.<br>☐ Discuss ways to incorporate student's interests and priorities into reading instruction. |
| | 2. Ensure you have a clear picture of the student's current level of functioning and set meaningful, measurable goals. | ☐ Summarize student's current strengths in reading.<br>☐ Consider next areas of instructional focus.<br>☐ Develop measurable, meaningful goals for each targeted skill. |
| **Section B: Focus on instructional delivery** | 3. Provide explicit, systematic reading instruction. | ☐ Select the reading program to be used with the student.<br>☐ Review the level of explicit and systematic instruction in reading program.<br>☐ Consider possible adaptations.<br>☐ Review need for possible curriculum supplements. |
| | 4. Provide instruction with sufficient intensity to accomplish goals. | ☐ Consider the alignment between instructional intensity and ability to obtain intended outcomes.<br>☐ Consider whether plan includes a sufficient amount of direct instruction from a highly qualified instructor.<br>☐ Discuss potential changes needed to obtain outcomes. |
| | 5. Seek out professional development opportunities to deepen understanding of the complex process of learning to read. | ☐ Review professional development needs to ensure delivery of high quality reading instruction.<br>☐ Discuss available PD opportunities.<br>☐ Outline steps necessary to ensure PD is obtained. |
| | 6. Remember that language abilities are the underlying foundation for reading skills. | ☐ Consider student's language abilities in the planning of reading instruction.<br>☐ Consult with SLP on reading instruction.<br>☐ Review alignment of SLP services and reading goals.<br>☐ Consult with teachers of ESL or bilingual programs if needed. |
| | 7. Scaffold working memory with images, objects, letters, and words. | ☐ Consider possible working memory deficits.<br>☐ Review need for instructional scaffolds to support deficits.<br>☐ Discuss strategies to make instruction more visual or concrete. |
| | 8. Target specific parts of a scope-and-sequence to focus instruction. | ☐ Evaluate the clarity of the reading program's scope-and-sequence.<br>☐ Plan how instruction will be designed around the scope-and-sequence.<br>☐ Determine how the student will progress through the scope-and-sequence. |
| | 9. Use data to guide instruction and adaptation. | ☐ Outline a data collection plan to allow the IEP team to evaluate the student's progress.<br>☐ Plan for sharing data with school staff, parents, and the student (when appropriate).<br>☐ Plan for graphing and analyzing data.<br>☐ Consider if measures being used are sensitive to small increments of student improvement. |
| | 10. Involve service providers and family members. | ☐ Discuss supplemental services (e.g., assistive technology specialists, behavior specialists) and alignment to support reading instruction.<br>☐ Plan for family involvement to increase access to literature and practice mastered skills at home. |

*(continued)*

**Figure 1 (continued)**

## Literacy Instruction and Support Planning Tool (p.2)

**Section C: Instructional emphasis:** Review Tip #1. Select a level that indicates the balance between functional reading and learning how to read for the student.

**Section D: Student interests:** List interests and personal goals related to reading instruction.

| | | | |
|---|---|---|---|
| ☐ **5** = Primarily functional, minimal how to | Across all levels: Access to age-appropriate literature (narrative and informational) through read-alouds and independent text reading | 'Functional reading' focus / 'How to read' focus | 1. |
| ☐ **4** = Majority functional, moderate how to | | | 2. |
| ☐ **3** = Balance between functional and how to | | | 3. |
| ☐ **2** = Majority how to, moderate functional | | | 4. |
| ☐ **1** = Primarily how to, minimal functional | | | 5. |

**Section E: Instructional priorities, supports, and access opportunities:** Review Tip #2. Rank the need to prioritize each of the following when developing reading goals and instructional plans for the student.

### Increasing Independence as a Reader

**Key** **1** = Not a priority at this time. **2** = Low priority. **3** = Moderate priority. **4** = High priority. **5** = Very high priority.

| Instructional priorities for reading instruction | Priority level |
|---|---|
| **Phonemic awareness** (Increasing student's ability to hear and manipulate sounds in spoken language.) | 1 2 3 4 5 |
| **Phonics** (Increasing student's knowledge of sound-symbol correspondences.) | 1 2 3 4 5 |
| **Comprehension** (Increasing student's ability to understand independently read texts.) | 1 2 3 4 5 |
| **Vocabulary** (Increasing student's knowledge of written words and ability to determine meanings of unknown written words.) | 1 2 3 4 5 |
| **Fluency** (Increasing student's ability to read text with appropriate pacing, accuracy, and prosody.) | 1 2 3 4 5 |

| Opportunities to apply & generalize skills | Priority level |
|---|---|
| **Text applications** (Instruction and support is needed for generalization of reading skills to novel texts.) | 1 2 3 4 5 |
| **Functional activities** (Instruction and support is needed for generalization of reading skills into functional activities [e.g., menus, newspapers, weather reports, directions].) | 1 2 3 4 5 |
| **Writing** (Instruction and support is needed to extend generalization of reading skills into writing, including options to select pictures, phrases, etc. for students who are not yet writing.) | 1 2 3 4 5 |

### Increasing Access to Literature

**Key** **1** = Not a priority at this time. **2** = Low priority. **3** = Moderate priority. **4** = High priority. **5** = Very high priority.

| Instructional priorities to increase access to literature | Priority level |
|---|---|
| **Task analysis for read alouds** (Instructors need to systematically plan instruction to support the student's ability to benefit from texts that are read aloud.) | 1 2 3 4 5 |
| **Text awareness** (Instruction is needed to increase student's awareness of text features during read alouds [e.g., student points to key words during read aloud.) | 1 2 3 4 5 |
| **Vocabulary** (Instruction is needed to increase student's understanding of words during read alouds.) | 1 2 3 4 5 |
| **Listening comprehension** (Instruction is needed to increase student's ability to apply grade-level aligned reading comprehension skills to texts that are read aloud [e.g., sequencing events, identifying main idea].) | 1 2 3 4 5 |

| Opportunities to access literature | Priority level |
|---|---|
| **Adapted books** (There is a need to increase the quantity and/or quality of adapted texts to support learning. Additionally, instruction may be needed to support student's use of adapted texts.) | 1 2 3 4 5 |
| **Time for literacy** (There is a need to increase the amount of time, both during and outside of school, the student spends engaged with literature, including texts that are read aloud or read independently.) | 1 2 3 4 5 |
| **Readers** (There is a need for increasing the available quantity and/or quality of people who can read texts aloud or offer reading support, including peers, family members, and school staff.) | 1 2 3 4 5 |
| **Technology access** (There is a need to increase the quantity and/or quality of technology supports that could enhance student's access to texts, including computers, tablets, smart phones. Additional instruction may be needed to support student's use of technology to access texts.) | 1 2 3 4 5 |

**Section F: Goal prioritizing:** List goals that appear to be the most important to consider in the upcoming academic year.

1.
2.
3.
4.
5.

school years, emphasizing the need for an ongoing focus on literacy instruction.

It is important to note that Browder et al.'s model also highlights the need to ensure that literacy instruction includes a focus on increasing student access to literature by providing increased access to books and other texts (e.g., via peers, family members, technology) and by providing instruction on how to gain meaning from texts, including those that are read aloud to the student (see Browder, Trela, Gibbs, Wakeman, & Harris, 2007). This aim is important in that it provides a secondary path to access age-appropriate literature that is not reliant on the development of basic reading skills.

Second, Browder and colleagues' (2009) model highlights how the focus on "how to read" versus "functional reading" will likely change as a student moves into adolescence and as special education services begin to increase focus on transitioning into the postsecondary world. IEP team members will need to talk frankly about how to appropriately balance instructional time spent on increasing reading independence (i.e., reading instruction) with instructional time focused on other important transition outcomes (e.g., communication, functional reading, self-care, social skills, technology, transportation, employment, leisure).

We also believe it is worth noting that over time, even small, incremental improvements in independent reading skill can have a drastic effect on a student's quality of life. In other words, although it may take multiple years of instruction for a student to be able to read at a third-grade or even first-grade level, a student who obtains even this level of basic skill can access many more texts than a nonreader. Thus, the substantial efforts that may be required to enhance reading outcomes for students with ID are very much worth it (Lemons et al., 2015). Focusing instruction on texts and words that students are most interested in learning can improve quality of life and also enhance motivation and engagement for older students (e.g., learning to read leisure magazines about sports, how to access a transportation schedule, a basic recipe for a favorite meal, accessing social media).

### Tip 2: Set Meaningful, Measurable Goals

Another important aspect of planning reading instruction is to understand the student's current strengths and instructional needs in relation to essential reading skills. IEP teams can use Browder et al.'s (2009) model to outline essential skills, and achievement standards from a state's alternate assessment also may be useful for planning. We believe that the foundational skills for reading outlined in the Common Core State Standards (CCSS) can be particularly useful when thinking about focus areas for reading instruction (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010a, 2010b). For example, the CCSS foundational skills at Grade 1 include detailed skills in the areas of print concepts, phonological awareness, phonics and word recognition, and fluency. IEP teams can review the foundational skills and determine which ones represent the next developmental progression for an individual student. In selecting skills on which to focus, teams should prioritize those that are most likely to affect a student's overall reading abilities. For example, some of the foundational skills (e.g., rhyming) may be less important than others (e.g., phonemic awareness; see Allor, Mathes, Champlin, & Cheatham, 2009 for further details). Considering guidance from Browder et al., teams should select skills that are most likely to have a direct benefit—including immediate and longer term—on students' lives.

Multiple sources of data can help IEP teams evaluate a student's current abilities in relation to essential literacy skills. First, it is likely that standardized reading achievement measures (e.g., Woodcock Reading Mastery Test; Woodcock, 2011) have been administered to the student as part of the formal evaluation process. Other criterion-referenced assessments may also indicate which reading skills students have mastered. Data from these measures can highlight areas of relative strength and weakness. Second, teams may also administer early-grade measures of curriculum-based measurement (CBM) to evaluate students' performance in phonological awareness, letter knowledge, and word and passage reading. Several studies (Allor, Mathes, et al., 2014; Lemons et al., 2013) have demonstrated that early-grade CBM can be used to monitor response to reading instruction for children with ID across grade levels. Third, the IEP team may develop informal (or mastery) assessments based on the CCSS Foundational Skills or other standards to evaluate a student's current abilities on key skills.

For example, at Grade 1, students are expected to "decode two-syllable words following basic patterns by breaking words into syllables" (RF.1.3.4). A teacher could generate a list of 10 two-syllable words and observe the student reading these words to evaluate whether the student was able to perform the skill. Alternatively, teachers could create similar informal assessments using content they are teaching in their daily lessons. For example, teachers might conduct a brief assessment to determine whether a student is able to correctly produce taught letter sounds and words. This data can guide decisions on whether the student is ready to move forward in the scope and

**The model provides a reminder that it is essential that literacy instruction for students with ID focus on increasing students' independence as readers.**

sequence. It is also useful to conduct frequent assessments of previously learned material to determine if the student has retained prior learning and to reteach when needed.

Once the team has a solid understanding of the student's current abilities, it should generate a set of IEP goals that are focused on essential reading skills. IEP goals can be generated based on Browder et al.'s (2009) model, performance on early-grade CBM, the CCSS Foundational Skills in reading, and informal assessment. Following guidance provided by Yell and Stecker (2003), an example of an IEP goal based on oral reading fluency CBM would be "By the end of the school year, when presented with a second-grade oral reading fluency probe, Je'Sean will correctly read aloud 90 words per minute with at least 95% accuracy." Teachers can learn more about using CBM to monitor progress through resources provided in Table 1.

### Tip 3: Provide Explicit, Systematic Reading Instruction

In our experiences working in schools, too often we find that reading instruction provided to students with ID is disconnected and disorganized. This is often because teachers are not provided with an appropriate instructional program but are instead pulling resources from various sources, including the Internet. We believe that using one reading program as a base will help teachers deliver instruction in a more systematic way. Additional resources can then be aligned to this program. We strongly recommend that teachers select an evidence-based program that provides explicit models, corrective feedback, scaffolding, reinforcement, and cumulative review as well as a focus on systematic instruction in phonological awareness and phonics skills (Bradford et al., 2006; Browder et al., 2012; Browder et al., 2009; Conners, Rosenquist, Sligh, Atwell, & Kiser, 2006). See Table 1 for recommendations of appropriate programs that have been demonstrated to be effective in research studies involving students with ID. It is likely that the base program will need some adaptations as teachers work to individualize instruction and that supplemental content may be necessary to meet the instructional and access needs of the student. However, using the base program as a foundation will increase the connectedness and organization of instruction. This is because a structured scope and sequence is key to keeping instruction organized and unified.

Another element of systematic teaching is providing instruction that enables students to apply skills across contexts and make connections among related skills (Browder et al., 2007). Students with ID benefit from routine language that is repeated across lessons and contexts (e.g., reading and

**Table 1. Resources to Enhance Literacy Instruction**

| | |
|---|---|
| CBM resources | • IRIS module http://iris.peabody.vanderbilt.edu/module/gpm/cresource/q1/p02/#content<br>• *The ABCs of CBM: A Practical Guide to Curriculum-Based Measurement*, 2nd ed. (Hosp, Hosp, & Howell, 2016)<br>• Potential measures: http://www.intensiveintervention.org/chart/progress-monitoring |
| Promising intervention programs | • Early Interventions in Reading https://www.mheonline.com/program/view/4/1/2542/SRAEIRLV11/<br>• Early Literacy Skill Builder http://www.attainmentcompany.com/elsb<br>• Mondo Bookshop Phonics http://www.mondopub.com<br>• Road to Reading http://products.brookespublishing.com/ |
| Reading-related web resources | • Project Intensity (A federally funded research project) http://www.projectintensity.com/<br>• Reading Rockets (resource for teaching reading) http://www.readingrockets.org/<br>• Reading A-Z (resource for findings texts) https://www.readinga-z.com/<br>• TextProject (resource for vocabulary instruction) http://textproject.org/ |
| Reading-related text resources | • *Direct Instruction Reading*, 5th ed. (Carnine, Silbert, Kame'enui, & Tarver, 2009)<br>• *Fundamentals of Literacy Instruction & Assessment, Pre-K–6* (Hougen & Smart, 2012) and *Fundamentals of Literacy Instruction & Assessment, 6–12* (Hougen, 2014)<br>• *More Language Arts, Math, and Science for Students with Severe Disabilities* (Browder & Spooner, 2014)<br>• *Teaching Students with Moderate and Severe Disabilities* (Browder & Spooner, 2011) |

*Note*. CBM = curriculum-based measurement.

writing; general education classroom, resource room) so instructions are quickly understood. A student with ID may not make the necessary connection if one teacher refers to sight words as "outlaw words" while another refers to them as "look-and-say words." Teachers should also explicitly teach connections among related skills (e.g., phonological awareness to decoding to spelling, decoding to meaning to writing). For example, when students are decoding a word, they first say the sounds of individual letters and then blend those sounds to say the word. These two subskills can be practiced separately (i.e., in separate letter-sound practice and oral phonemic awareness blending practice) and then explicitly applied to decoding and spelling. Systematic review, ongoing cumulative practice, and integration of skills in this manner will increase the likelihood that students will maintain and generalize skills.

We realize that some students' initial response to instruction focused on phonological awareness and phonics skills may be minimal. For these students, teachers should consider devoting a period of instruction to increasing sight word reading ability (Browder & Xin, 1998). Teachers could do this as we did in a recent study (Lemons et al., in press) by teaching important, highly imageable, decodable words (e.g., *mom, dad, dog*) paired with pictures. Alternatively, teachers could use a more traditional sight word program (e.g., Edmark [ProEd, 2011], PCI [Haugen-McLane, Hohlt, & Haney, 2008]). We believe it is important to integrate phonological awareness and letter-sound instruction into these sight word programs as early as possible to ensure students have the ability to decode words that are not directly taught to them.

### Tip 4: Provide Instruction With Sufficient Intensity to Accomplish Goals

Inclusion and the amount of time spent with same-age peers without disabilities in general education settings are important to consider when planning for children and adolescents with ID. However, IEP teams should consider whether receiving all instruction in the general education classroom will allow for a sufficient level of intensive intervention to support the student in meeting reading goals (Zigmond & Kloo, 2011). There are at least two important points regarding intensity. First, in informal discussions with teachers who have participated in our recent studies, many have reported that a substantial number of their students with ID spend a majority of time in the general education classroom receiving one-on-one support from a paraprofessional to participate in instructional routines; however, this most often does not involve direct instruction of academic skills. In many cases, teachers reported that pullout instruction would have allowed an instructor to provide more intensive reading instruction that better targeted students' academic needs.

Second, even when intensive instruction is provided, many students with ID will need multiple years of intervention to achieve reading goals. For example, Allor, Mathes, and colleagues (2014) provided daily phonics-based reading instruction to children with below-average IQ, including many with ID. Instruction was provided for 40 to 50 minutes per day in groups of one to three students. Although students receiving the researcher-delivered reading intervention made statistically significantly better gains on average that students in the business-as-usual control classrooms, many students made only 1 year's worth of progress in the curriculum after participating in the study for between 2 and 4 years. However, given the stable, relatively flat growth demonstrated by the students in the control condition, it is unlikely that students in the treatment condition would have made the progress they did with less intensive instruction.

To meet learning goals, the IEP team should ensure that the student receives a sufficient amount of time participating in direct instruction in reading provided by a highly qualified, trained interventionist (Fuchs, Fuchs, & Compton, 2012). This instruction should be closely aligned to the student's academic needs. In other words, instruction should target the student's zone of proximal development, or as we like to say, it should be in the student's "instructional sweet spot." Beyond this, instruction should be engaging, and a plan should be in place to closely monitor the student's response to instruction. In our collective experience as teachers and researchers, it is challenging to provide this level of intensity within the general education classroom.

Instruction should be engaging, and a plan should be in place to closely monitor the student's response to instruction.

### Tip 5: Seek Out Professional Development Opportunities

Many special educators who teach students with ID have received limited preservice training on how children learn to read. In-service professional development to increase knowledge in this area can help teachers individualize and intensify reading instruction for their students. We believe that there are at least two important aspects of this on which professional development could focus.

First, teachers should understand what skilled readers do and understand how this skill develops. A fully developed reader recognizes letters and words quickly, uses the meanings of individual words, and makes immediate connections to the meaning of what they are reading. Skilled readers also use and apply general knowledge of the world to help them

understand what they are reading. "Skilled reading happens too fast and is too automatic to detect its underlying processes through simple introspection. We read, but we cannot watch how our minds make sense out of print" (Moats, 1999, p. 12). Skilled reading involves many different processes happening simultaneously so that students can recognize words effortlessly and focus deeply on comprehension.

Second, teachers should understand theoretical models of reading development. Scarborough's (2001) woven-strand model demonstrates how initial skills in language comprehension (i.e., knowledge of background, vocabulary, language structures, literacy, and verbal reasoning) and word recognition skills (i.e., phonological awareness, decoding, spelling, and sight recognition) gradually become integrated. With instruction and practice, readers increase both automaticity and strategy to eventually demonstrate fluent coordination of word reading and comprehension processes. (For additional information on how learning to read occurs, see Perfetti, 2003; Perfetti & Marron, 1998.)

We understand that resources are often stretched in schools and that funds to provide for additional professional development (PD) opportunities are frequently limited. We have three recommendations that may help teachers access additional PD. First, local universities often offer courses on reading development and reading instruction. Although these are available to teachers through tuition or scholarship opportunities, there may be additional ways to access the content. For example, university instructors will often allow a teacher to audit a course in exchange for involving the teacher's class in practicum or research activities. Second, as researchers, we often offer school districts complimentary PD for supporting our research efforts. Teachers can reach out to researchers at local universities to see if these types of opportunities are available. Our third recommendation is for teachers with common interests to form professional learning communities (PLCs; Helman & Rosheim, 2016) in which they can work together to deepen knowledge and improve practice. The PLC could devote time to learning about reading instruction from several high-quality, free websites (e.g., Table 1) and sharing brief videos of instruction or assessment to assist one another in planning and problem solving. Alternatively, the PLC could dedicate time to reading books and peer-reviewed journal articles, discussing the content, and then applying instructional techniques. Suggestions of books to consider are included in Table 1. Finally, members of the PLC could opt to purchase a new curriculum and agree to support one another in initial implementation and problem solving.

With their expertise in language development, speech language pathologists are in the unique position of being able to identify and intervene upon language roots of reading problems.

### Tip 6: Remember That Language Abilities Are the Underlying Foundation for Reading Skills

The theory of reading development known as the "simple view of reading" (Hoover & Gough, 1990) stresses that the act of reading combines word recognition and language comprehension. In other words, reading is simply the process of translating print into language. Planning for reading instruction should take into consideration a student's language abilities. Learning to read does not occur decontextualized from language development. Good readers make immediate links between print and meaning; therefore, instruction should support students with ID in making these connections as much as possible. For example, isolated skills should be combined as soon as possible to create words and sentences in contexts that are familiar to students and likely to be understood.

With their expertise in language development, speech language pathologists (SLPs) are in the unique position of being able to identify and intervene upon language roots of reading problems (Ehren & Whitmire, 2009). For example, SLPs may provide key information about how speech perception, speech sound production, and vocabulary are interfering with reading progress (Squires, Gillam, & Reutzel, 2013). Many SLPs are trained to take a diagnostic-prescriptive approach to intervention (Ehren & Whitmire, 2009). In this approach, a student's current abilities and areas of instructional need are evaluated, and an intervention is designed to target areas of need. IEP team members can find additional guidance on enhancing the role of the SLP in literacy instruction through the American Speech-Language-Hearing Association (2001). It is also important to remember that expert guidance from teachers of English as a second language or bilingual education programs will be necessary for students whose first language is not English.

### Tip 7: Scaffold Working Memory

Many students with ID have deficits in working memory that can limit response to reading instruction. Consider, for example, the cognitive demands that are required for a student to sound out the word *sat*. The student says the sound for each letter, /s/ /a/ /t/, and then must blend those sounds together to say the whole word. Students who are not skilled at blending spoken sounds into words and who experience deficits in working memory often will forget the first sound by the time they begin to blend the sounds together and respond with the word *at* instead of *sat*. They simply forgot the /s/ sound. Other tasks—such as identifying the middle sound in a spoken word or manipulating phonemes—are even more difficult.

Teachers can provide various forms of scaffolding to assist students in manipulating phonemes even if a student's working memory limitations make the task difficult. For example, in a recent study focused on improving reading outcomes for children with Down syndrome (Lemons et al., in press), we provided two levels of scaffolding for early reading activities. First, we taught a limited number of highly imageable, decodable words (e.g., *dog*) by having students match the words to pictures. When students were able to identify the words automatically, we were then able to use the printed word or picture to support early phonological awareness and alphabetic principle activities. For example, if we asked a student to provide the first sound in the word *dog* and the student needed additional scaffolding, we showed the student the picture or printed word. Second, we quickly integrated letters into phonological awareness activities to provide additional support. Often, phonemic awareness is taught without letters, which is appropriate for very young students who are typically developing; however, in our experience, students with working memory limitations find that the addition of letters makes the task much easier. This is especially true for students who know many letter sounds but are still unable to blend sounds into words. For example, if a student was unable to segment the word *dog* using Elkonin boxes (i.e., a figure where small connected squares represent a series of phonemes) with three plastic chips, we replaced the chips with plastic letters (e.g., *d, o, g*). Conversely, if a student was unable to blend the sounds /d/ /o/ /g/ into the word *dog*, simply adding the letters to the task serves as a mnemonic clue so the student can hold the sounds in memory long enough to blend them into the word. This type of flexible scaffolding ensures that students are able to be successful with early reading activities.

### Tip 8: Target Specific Parts of a Scope and Sequence to Focus Instruction

When planning reading instruction for students with ID, teachers need to consider not only what content to teach but also how to proceed through that content. Using a systematic approach to moving through a curriculum's scope and sequence can assist a teacher in ensuring that instruction is focused and consistent so that students master the content. Further, planning instruction so that an appropriate amount of content is targeted at a time will allow teachers to focus planning efforts. When the amount of content from the scope and sequence to be included in a lesson is matched to a student's instructional level, this can enhance student learning.

Teachers must decide when to repeat individual lessons or groups of lessons. Sometimes students may master some skills within a lesson (e.g., letter sounds) but still have difficulty with other skills in the same lesson or groups of lessons (e.g., blending letter sounds into words). In one research study, we found that some students were able to learn sight words and individual letter sounds at a faster pace than decoding regular words (see Allor, Gifford, Al Otaiba, Miller, & Cheatham, 2013). In this case, a teacher may introduce additional sight words and letter sounds while providing extra practice in blending and spelling. It is also helpful for teachers to group students with similar skills into homogenous small groups for teacher or paraprofessional instruction or to pair a student who lacks a skill with a student who has mastered it for peer-pair practice.

One way that we have targeted specific parts of a scope and sequence in our work is to select a limited number of new words or sounds to be taught at a time. For example, in Lemons, Mrachko, Kostewicz, and Paterra (2012), we used the scope and sequence of an evidence-based reading program (i.e., *Road to Reading*; Blachman & Tangel, 2008) to generate a preassessment of letter sounds, decodable words, and high-frequency words. We used data from this assessment to determine, individually, where students would be placed in the program. For each student, we selected five target letter sounds, decodable words, and high-frequency words to target in upcoming lessons. Intervention was delivered and learning of this content was assessed daily. When students provided the correct letter sound or word for 3 consecutive days, we deemed that item "mastered" and replaced it with the next letter or word on the scope and sequence. We also did frequent assessments of mastered items to check for maintenance and incorporated missed items back into instruction. This systematic approach to moving through a scope and sequence allowed us to match the intervention to each student's instructional level. For some students, we likely could have targeted a larger number of items. Teachers should use data they are collecting to determine an appropriate pacing for their students.

**One of the most important things teachers can do to increase the likelihood that students with ID obtain reading goals is to use data to monitor progress and guide ongoing adaptations.**

### Tip 9: Use Data to Guide Instruction and Adaptation

One of the most important things teachers can do to increase the likelihood that students with ID obtain reading goals is to use data to monitor progress and guide ongoing adaptations. In multiple studies (Allor, Mathes, et al., 2014; Lemons et al., 2012), we have used early-grade CBM to track students' response to reading instruction, to pace their progress through a curriculum, and to inform us when instructional changes or even modifications were necessary. We encourage teachers to learn more about CBM and to consider whether this form of progress monitoring may be

useful for their students. The data collected from CBM can also be used to guide ongoing adaptation of reading instruction. Teachers can use a process called data-based individualization (DBI) to determine when and how to make instructional changes (Fuchs et al., 2012). Teachers can learn more about DBI through the National Center on Intensive Intervention (www.intensiveintervention.org). Although most of the materials on the site are focused on students without ID, the guidance provided on using data to evaluate student progress and modify instruction when students are not responding sufficiently remains relevant. The approach provides teachers a framework to serve as a clinical expert who provides targeted, individualized instruction.

### Tip 10: Involve Service Providers and Family Members

Although we acknowledge that less research support is available for this tip, the Individuals With Disabilities Education Act (2006) does emphasize that IEP meetings should involve service providers and family members. During the IEP team meeting, members should discuss how they can coordinate and provide support for reading instruction. We briefly highlighted the important role that SLPs may play (Ehren & Whitmire, 2009; Squires et al., 2013), but other support staff, including assistive technology specialists, behavior specialists, and school psychologists, may offer expertise that can support reading instruction (Ayres, Mechling, & Sansosti, 2013; Smith, DeMarco, & Worley, 2009). It is important that team members consider how they can provide support for the agreed-upon reading goals and to ensure that there is consistency across support. For example, if a student receives instruction from a general education teacher, a special education teacher, and an SLP, the three professionals should plan to use common instructional language, to target similar skills, and to review data frequently.

Involving family members is also crucial. However, too often the role of family members is poorly defined. Some families may be unaware of research showing that students with ID can learn to read. We believe there are at least two important points to consider here. First, family members should prioritize features of literacy that are included as aspects of increased access to literature in Browder at al.'s (2009) model. Family members should be encouraged to provide children with multiple opportunities to access literature through read-alouds, adapted text, and repeated reading when appropriate. Families can provide definitions of new vocabulary words and can encourage discussions of stories—both those read aloud and ones a student may read independently. It is vital that school personnel encourage parental participation and important that necessary supports are provided for families of culturally and linguistically diverse backgrounds and for those of lower socioeconomic status.

Second, family members should not be responsible for initial instruction of skills. Instead, family members' roles are to provide supported opportunities for practice that are fun and engaging. Teachers can provide family members with simple, gamelike activities that focus on reviewing skills the student can do independently or with minimal support. For example, if a student is able to appropriately segment three phoneme words about 80% of the time, a teacher could create a sheet that includes pictures and Elkonin boxes for four three-phoneme words. Family members could hang the sheet on the refrigerator and encourage the student to segment one or two words multiple times throughout the day when the child is in the kitchen. This provides additional opportunities for practice, requires little time or effort on the family members' part, and could be integrated into a family's schedule in a quick and fun way. Students can practice reading a set of words and sentences to family members; as students advance, they can read books recommended or provided by the teacher. See Figure 2 for a set of tips that families may find useful as they prepare for an IEP meeting.

### Literacy Instruction and Support Planning Tool

We designed the planning tool (Figure 1) based on Browder et al.'s (2009) model of literacy instruction for students with ID. IEP team members can use the tool as a guide for discussing the literacy needs of individual students and when planning related instruction and supports. Various school professionals and parents could use this tool in multiple ways. It may be used as part of the IEP process or in other planning discussions. We suggest the following guidance as one way to use the tool.

1. Individual team members (including parents) can independently review the 10 tips presented in this article. While reading, team members may pause after each tip and review the related discussion points presented on the tool (Sections A and B). Individuals are encouraged to take notes that may be useful during team discussions.
2. Team members can then meet and review instructional priorities. The discussion points for Tips 1 and 2 (Figure 1 Section A, Focus on Instructional Planning) may be used to facilitate this discussion.
3. The team can discuss the appropriate instructional emphasis for the student (Section C). Team members may consider the student's current skills, goals for the student, and number of years remaining before the transition to postsecondary opportunities. Team members then select a level of focus (e.g., 1 = primary instructional emphasis on teaching the student how to read, minimal instructional focus on functional reading). Recall Browder et al.'s (2009) priority of ensuring access to age-appropriate literature across all levels.
4. Section D can be completed as team members discuss interests the student has that are relevant to planning literacy instruction. This may assist

**Figure 2. Tips for Families**

**Review data from the school to understand your child's current strengths and areas of need.**

- Consider your goals for next steps of progress. Share these with your child's teachers and members of the IEP team.
- Remember that reading is very important, but it is one of many aspects of your child's education.

**As students get older, consider postsecondary needs and target independence, employment, and social aspects (friends, leisure).**

**Work with school personnel to plan specific goals, services to meet these goals, data that will be shared to monitor progress toward goals, and the location of services that will ensure goals can be appropriately targeted.**

- Remember that, sometimes, inclusive settings are less intensive than other options.
- Ask how other service providers (e.g., SLP, behavior specialist) can support reading.

**If you don't understand, ask questions!**

- You are a critical member of the IEP team and understanding goals and services is necessary for you to be involved.
- Ask for information to be explained in simpler language if IEP members are using terms that you do not understand.
- Scheduling a meeting or phone call with your child's special education teacher to review information to be discussed prior to the IEP meeting may be helpful.

**Request for guidance from teachers on how you can support instruction at home.**

- Don't overdo it.
- Keep reading time with you fun!
- Spend more time on increased access to literature (reading aloud, language support, discussion of stories).
- For more basic skills (e.g., letter sounds, word reading, fluency), your role should be more practice than primary instruction.

with selecting high-interest texts, and it may help ensure that the student's personal goals for improving reading skills are considered.

5. Team members then reflect on instructional priorities, supports, and access opportunities (Section E). This section of the tool has been designed to align closely with Browder et al.'s (2009) model. For each item, the team discusses the current priority level. For example, under Instructional Priorities for Reading Instruction, the team may evaluate whether there is a need to provide instruction related to phonemic awareness by rating the item on the Likert-type scale (e.g., 1 = *not a priority at this time*, 2 = *low priority*).
6. Section F provides a space for team members to list goals that appear to be the most important to consider in the upcoming academic year.
7. The team then reviews the discussion points for Tips 3 through 10 (Section B, Focus on Instructional Delivery) to plan the specially designed instruction and supports to increase the student's reading abilities and access to literature.

## Conclusion

One of the most important roles an educator plays is teaching students to read. Enhancing reading and other literacy-related outcomes for students with ID will likely increase the success these students will experience in postsecondary employment, education, and independence (Hosp, Hensley, Huddle, & Ford, 2014). Ensuring that IEP goals and services are aligned with guidance from current research holds promise for increasing the effectiveness of educators in teaching a greater number of students to read. Our hope is that IEP teams who consider the 10 tips we have highlighted will be more reflective, will plan more intensive and effective instruction, and will see increasingly positive student outcomes.

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# FIX

# A Strategic Approach to Writing and Revision for Students With Learning Disabilities

Cindy K. Sherman and Susan De La Paz

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Teaching students in upper elementary school to revise their papers effectively requires a three-pronged approach. First, teachers provide instruction on a relevant genre or writing form (using the Common Core State Standards for English language arts or other relevant standards as a guide). Second, teachers help students to use four basic revising tactics (add, move, delete, and rewrite) in order to make changes to words, phrases and sentences, and longer portions of text. Third, using the FIX strategy, a metacognitive routine, helps students to manage the revising process. FIX uses the self-regulated strategy development (SRSD; Harris, Graham, Mason, & Friedlander, 2008) model of instruction. FIX works by teaching students to identify and solve "big-picture" problems in their writing rather than focusing on minor issues. In prior research, we found that students with and without learning disabilities who learned FIX made meaningful changes that improved their papers (De La Paz & Sherman, 2013). With this strategy, students can learn to effectively revise their essays and stories.

*Isaiah, an African American sixth grader who attends a public charter school in the Mid-Atlantic, has a learning disability. His reading is judged as proficient according to an annual high-stakes test; however, he struggles when it comes to writing. His performance on the Test of Written Language (Hammill & Larsen, 1996) indicates problems with conventions, language, spelling, and impoverished ideas. Isaiah's teacher observes that he enjoys talking about ideas but struggles to organize elements in his writing. When asked to write an essay about "highlights that he would explain to someone who was new to his town," he writes*

> If someone was new to my neighborhood, I would tell them about a park a block away, I would also talk about holloween, many kids come to the house's on our block around hollween time. when we got hit with a snow storm everyone help clear the streets. I think my neighborhood is great, it also help the ecnomy, because my neighborhood has many small buinessies around it. In January, everyone on the block wacths the super bowl.

## Novice and struggling writers do not know enough about the revising process to make "big-picture" changes.

One day later, Isaiah used a red pen to revise his paper. His revisions included three capitalizations: Halloween rather than holloween; When to start the second sentence, and Super. He then inserted in the winter after storm to explain when people shoveled, added *s* to help, and finally, after two attempts, correctly spelled economy.

Isaiah's changes are typical of novice writers in many ways. First, his changes improve the quality of his essay but only slightly. Second, his changes are the kind most teachers report seeing: all but one of Isaiah's changes focus on surface features (e.g., spelling, punctuation, word choice) instead of the overall meaning of his text (Rijlaarsdam, Couzijn, & van den Bergh, 2004). Although there may be many reasons for this, students often lack adequate genre knowledge to make effective global revisions (De La Paz, Swanson, & Graham, 1998). In addition, students may have difficulty recognizing inferred versus explicit information (De La Paz & McCutchen, 2011), being able to identify problems that actually exist (MacArthur, 2007), or realizing what has actually been written (i.e., the existing text) versus what was intended (Graham, 1997).

Research has shown that novice writers make *more* changes rather than making *better* changes, and many students' underlying difficulties in executing basic revising tactics (i.e., add, move, delete, rewrite) interfere with their ability to manage the overall revising process (De La Paz et al., 1998). Further, because young writers focus more on generating relevant content, it is difficult for them to monitor their revising (Midgette, Haria, & MacArthur, 2008). In short, novice and struggling writers do not know enough about the revising process to make "big-picture" changes. Therefore, we developed a metacognitive strategy to teach students like Isaiah a more effective approach to revising that emphasizes both reflection and problem solving.

### FIX: A Metacognitive Strategy for Revising

Our writing strategy is called FIX (De La Paz & Sherman, 2013). It is based on prior work on effective approaches to revising (e.g., Graham, 1997) and has three steps (see Figure 1) intended to guide students through the revising process: (1) **F**ocus on essay elements, (2) **I**dentify problems, and (3) e**X**ecute changes. Each step in the process is indicated using different color cards and coding: *Red* indicates that students should "stop" and focus on essay elements, *yellow* cautions students to consider and identify problems by searching for differences between what they intended to write versus what was actually written, and *green* prompts students to execute changes in response to specific problems.

#### Prerequisite Skills

Before learning how to revise using the FIX strategy, students need information on important elements of the target genre in order to understand what it means to write a specific type of essay (e.g., expository). To do this, teachers can locate exemplars of the genre for students to read from grade-appropriate textbooks. Student work samples from prior classes or web sites, such as http://www.thewritesource.com, are

**Figure 1. The FIX Strategy for Revising**

| Strategy steps | Explanation |
|---|---|
| **F**ocus on essay elements | Read your paper. Use the **red** cards to make important essay parts better. |
| **I**dentify problems | Read your paper again. Follow directions on the **yellow** cards. |
| **E**xecute changes | Make changes (see **green** cards) AND check that your essay makes sense. |

**Step 1: Focus on Essay Elements** (copy on red paper)

| |
|---|
| Does my claim (or statement of belief) answer the prompt? |
| Do I have enough reasons? |
| Did I elaborate (explain, use examples, or describe experiences)? |
| Does my conclusion sum up my ideas? |

**Step 2: Identify Problems** (copy on yellow paper, and use with highlighters)

| |
|---|
| Does the premise get the reader's attention? |
| Does this sound right or does it make sense? |
| Does this sentence really support my idea? Am I getting away from my main point? |
| Will people understand what I mean? Does my reader need more information? |
| Is this a complete idea? Do I need to elaborate more? |
| Am I repeating myself? |
| The problem is _____ |

**Step 3: Execute Changes** (copy on green paper)

| |
|---|
| Add |
| Move |
| Delete |
| Rewrite |

also helpful resources. For example, the Common Core State Standards for English Language Arts (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010) suggest that expository essays include a claim, reasons, and a conclusion.

After learning about the elements of the target genre, students can incorporate their knowledge of important elements when applying FIX to make decisions about what is working and what needs to be changed in their papers. Finally, prior to teaching FIX, teachers should ask students to write and revise an essay as a preassessment. This assessment can serve as a baseline as well as highlight specific areas that need to be targeted during instruction.

*Isaiah and his fellow students began writing expository essays the year before learning FIX; however, when given a prompt, most students wrote a single paragraph that was no more than four to five sentences in length. Isaiah wrote two paragraphs, each containing only two sentences. After reviewing students' preassessment prompts, Isaiah's teacher introduced FIX as a powerful way to revise expository essays.*

## SRSD

Students should learn about revising as part of an overall writing program—one that provides students with extended time to write for authentic purposes. When teaching Isaiah and his peers FIX, we used SRSD (Harris et al., 2008). SRSD is similar to other models for teaching writing in that students learn specific steps to accomplish writing tasks as teachers scaffold students' learning. However, with SRSD, teachers focus more on helping students self-regulate their use of the writing strategy. Self-regulated procedures include goal setting, self-instruction, and self-monitoring. There are six instructional stages in the SRSD instructional framework (Harris et al. 2008), and teachers can reorder, combine, modify, or reteach them as needed. The six stages of instruction as they relate to FIX are as follows:

- ***Stage 1: Discuss it.*** Teachers provide an overview of FIX, explain what it means to make meaningful changes, and give a rationale for each step of the strategy.

- ***Stage 2: Develop background knowledge.*** Teach students four basic tactics (add, move, delete, and rewrite) to revise parts of their essays.
- ***Stage 3: Model it.*** Teachers demonstrate how to manage the revising process by thinking aloud and using self-regulatory statements while using FIX.
- ***Stage 4: Memorize it.*** Students learn the meaning of the mnemonic and its parts.
- ***Stage 5: Support it.*** Teachers help the class and then small groups collaboratively revise several essays.
- ***Stage 6: Independent performance.*** Teachers systematically fade instructional supports—as students work to criterion—and teach for generalization.

## Teaching FIX Using SRSD

***Stage 1: Discuss the revising strategy.*** During this stage, provide a general overview of the steps in FIX and introduce the concept of making meaningful changes. Although this concept is developed throughout instruction, it is during this stage that teachers explain that meaningful changes improve text, whereas making edits only corrects for spelling, punctuation, and other surface elements. To illustrate, a meaningful change for *because they didn't take it the right way and won't be your friend anymore* could come from deleting *won't be your friend anymore*. Teachers explain that students will use self-statements to manage the revising process. *Self-statements* focus on the big picture, such as "What do I do first?" and "I need to make five meaningful changes *and* make sure my essay includes all of the elements." Setting content and audience awareness goals such as these have been shown to improve students' revising (Midgette et al., 2008).

*For Stage 1, Isaiah and his classmates examine pairs of sample phrases and sentences from their teacher and decide whether the second sentence in each pair is significantly different in meaning from the first sentence. For example, they decide that the following example is not a meaningful change because revising* "It would solve some problems like boys showing off for girls or vice versa" *to* "Like it would solve the problem of girls showing off for boys" *does not change the intent of the original sentence. They then decide that adding the phrase* of "what makes a good friend" *to the phrase* "these are my opinions" *is a meaningful change because it clarifies the underlying message.*

***Stage 2: Develop background knowledge.*** When teaching FIX, it is important to develop students' knowledge and skills related to the four basic tactics for revision (add, move, delete, rewrite). Fitzgerald and Markham (1987) developed an "I do, we do, you do" teaching sequence for teaching basic revision: (a) Teachers model a single revising tactic (e.g., add) in a sample essay, (b) teachers and students collaboratively revise a new essay using the same tactic, and (c) students then apply what they learned to revising their own essay with assistance. We suggest that teachers introduce each revising tactic before modeling the steps in FIX and monitor how students use each during collaborative and independent practice (see Figure 2 for a sample calendar).

*During Stage 2, Isaiah's teacher demonstrates how to add information to a sample essay and then asks students to brainstorm ideas that could be added to a new essay in a mini-lesson. The students then have the opportunity to apply the skill of adding information independently to their own writing. Two days later, their teacher shares a different essay on a new topic. The class recognizes that its ideas are not well organized, so the teacher revises the essay by demonstrating how to move two parts. Then, the class collaboratively decides on phrases and sentences that should be moved in a fourth essay. Again, the students independently practice moving parts within their essays. The next week, the teacher shares a paper that contains extraneous ideas. The teacher models how to identify and delete material that does not belong or is redundant. As before, after sharing how to delete ideas on a sample essay, students work as a class to delete irrelevant material and then work independently practicing the skill of deleting material. Finally, the teacher demonstrates how to rewrite a few phrases and sentences in a new paper. He ends this part of instruction by asking students to rewrite a final paper in small groups before they were asked to practice rewriting independently.*

***Stage 3: Model how to use the revising strategy.*** During Stage 3, teachers model the FIX strategy. To model the strategy, teachers begin by sharing or displaying a sample essay, reading it aloud, and following self-statements on each set of colored cards (see Figure 1). For example, "ask yourself big-idea questions from the red cards and make changes" (e.g., add reasons if there are not enough reasons to support the point). Then, "ask yourself questions from the yellow cards," highlighting where specific sentences are not clear, and delete or rewrite specific text to make meaningful changes. Finally, "move on to the green card" and remind students of the four tactics for revision. Teachers can demonstrate the recursive nature of revising more generally by deciding to rewrite a claim that no longer encompasses parts that have been added during earlier revisions. New problems may arise after modeling how to execute changes. For example, after deleting an irrelevant idea, the teacher may realize and tell students that new reasons are needed to have a well-developed essay. When modeling making revisions, teachers should use self-statements, such as "This paragraph introduces my first reason and supports my main idea, but I am going to rewrite it to make it more interesting to my reader."

*When modeling the strategy, Isaiah's teacher begins by stating, "The first step in FIX is to focus on essay elements," then he reviews each red card in turn (see Figure 3; comments related to the red card are written in red on the essay). The teachers asks and answers the first*

**Figure 2. Sample Calendar for Planning Instruction**

| Week | Lesson | Activity |
|---|---|---|
| Week 1 | Assessment and pre-instruction | M: Students write an essay<br>W: Students revise their essay<br>F: Read exemplars; introduce essay elements |
| Weeks 2–4 | Discuss the strategy and develop background knowledge | M: Describe FIX, "meaningful changes" and self-statements<br>W: Model how to add, then students do this as a class<br>F: Students try to "add" with own essay<br>M: Model how to delete, then students do this as a class<br>W: Students try to "delete" with own essay[a]<br>F: Model how to move, then students do this as a class<br>M: Students try to "move" with own essay<br>W: Model how to rewrite, then students do this as a class<br>F: Students try to "rewrite" with own essay |
| Weeks 5–6 | Model the strategy<br>Support and practice the strategy | M: Model how to use FIX, make meaningful changes, use self-statements<br>W: Students use FIX as a class with teacher guidance<br>F: Students use FIX in small groups of 2–3 with teacher guidance<br>M: Students use FIX in small groups with teacher guidance<br>W: Students use FIX in small groups with teacher feedback<br>F: Students use FIX in small groups with teacher feedback |
| Weeks 7–8 | Independent practice | Students use FIX, make self-statements, and chart meaningful changes until they reach criterion (e.g., across five sessions)<br>Discuss how to use FIX to revise stories and other genres |

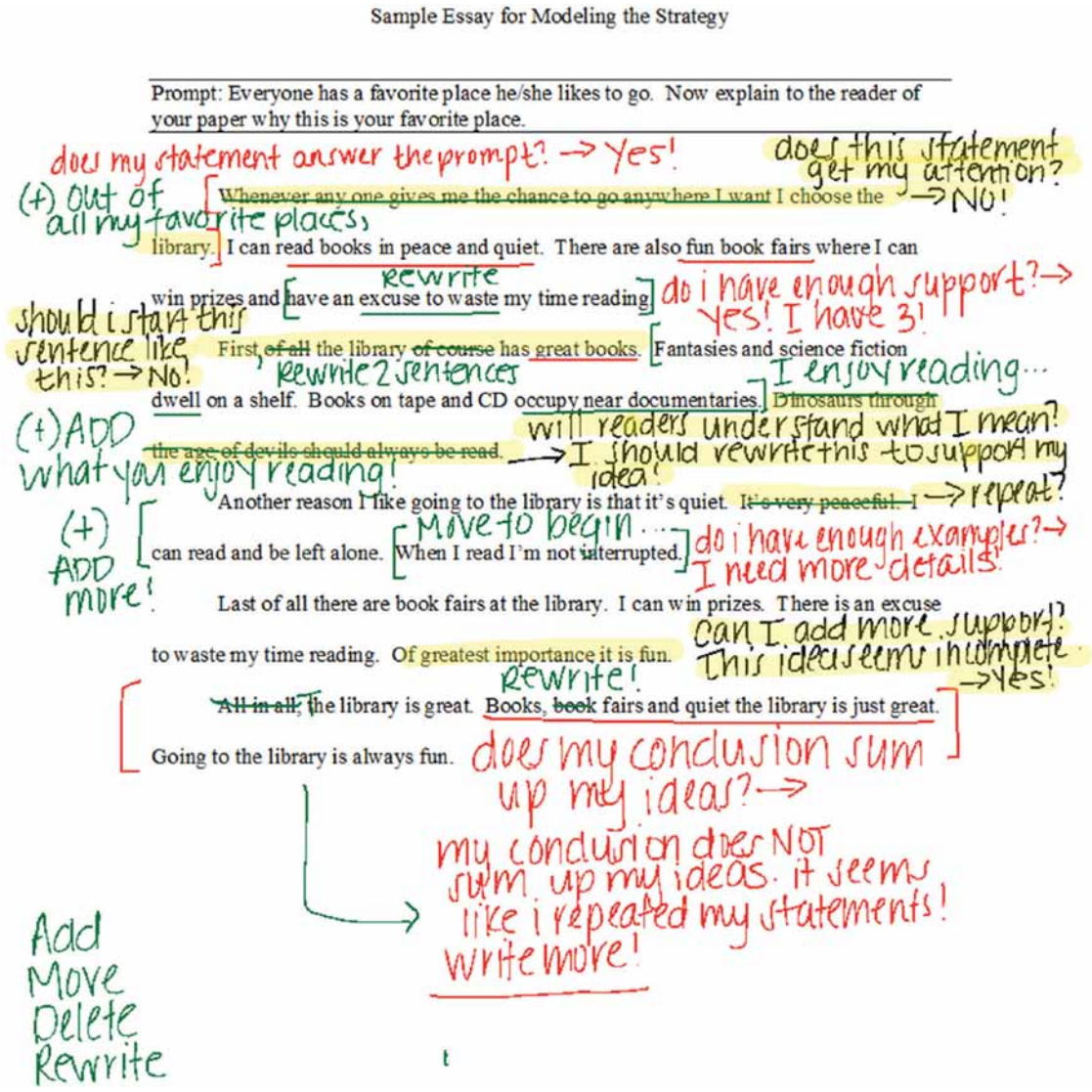
[a]Students should integrate revising skills (e.g., adding and deleting text) as they learn new tactics.

*two questions on the red card: "Does my statement [claim] answer the prompt? Yes! Do I have enough support? Yes! I have three [supporting ideas]!" He then asks, "Do I have enough examples? I need more details!" then adds, "I can read without listening to my sister and her friends run around making noise." He ends Stage 1 with a reflection about his conclusion: "Does my conclusion sum up my ideas? My conclusion does not sum up my ideas—it seems like I repeated my statements, [so I will rewrite and] write more! Then he adds several ideas to "the library is great . . . ."*

*When beginning Stage 2 of FIX, he models how to identify problems, using the questions on the yellow card and highlighting problematic sentences. He reminds students that there are four ways to make changes, referring to the green cards for guidance. He begins by saying, "Now I need to identify less obvious problems—I am going to go through each statement on my yellow cards and use my highlighter when I come across phrases and sentences that need to be changed." During this step, he looks at each question from the yellow card (see Figure 3) and begins Stage 3 of FIX by executing changes (add, move, delete, rewrite) in response to each problem. He uses "+" to indicate where he plans to add text and writes "Out of all my favorite*

**When teaching FIX, it is important to develop students' knowledge and skills related to the four basic tactics for revision (add, move, delete, rewrite).**

**Figure 3. Sample Self-Statements for Teachers to Use When Modeling How to FIX Their Writing**




*places" to show the actual text that is going to be added.*

*Throughout Stages 2 and 3, he asks, "Did I execute changes to make my paper better?" and models coping and self-reinforcement by saying, "This isn't hard, I can do this" and "I like this change; my essay is better than before." He then rereads his essay, modeling how to check that changes to his essay made sense. Last, Isaiah's teacher corrects a spelling and a punctuation error before finishing for the day, explaining that editing was done after revising.*

Revising is a highly individualized process (no two revisions look the same) and is messy to describe. Figure 4 shows the essay Isaiah's teacher revised. Although other changes could have been made to make the essay even stronger, he ended the lesson at this point believing that further changes would have been hard for students to follow and above their skill level. It is important for teachers to know that before modeling, they should plan what to say and do so that they can comfortably demonstrate the steps and self-regulation procedures in FIX in front of students.

***Stage 4: Memorize it.*** In this stage, teachers ask students to commit to learning the meaning of FIX, its steps, and the metacognitive statements that are most helpful for each individual. Memorization can be encouraged by using short, rapid-fire drills in game-like exercises. Allow students to paraphrase strategy steps as long as the meaning of the red, yellow, and green cards remains intact. Asking students to memorize at least one self-instruction (choosing goal setting, self-monitoring, or managing the strategy) when using the strategy helps students adapt self-statements to meet their individual needs.

*During Stage 4, Isaiah's teacher quizzes students about the strategy steps and self-regulatory statements for 5 to 10 minutes once or twice a week until most students can remember the mnemonic. He reviews each of the strategy steps on flash cards a few times during*

**Figure 4. Sample Essay After Revising With FIX**

Out of all my favorite places, I choose to go to the library. I can sit in the library and read books in peace and quiet. There are also book fairs where I can win prizes and have a good excuse to spend my time reading. A day at the library is one of the most exciting and relaxing ways to spend an afternoon.

First, the library is packed with an endless amount of great books. Fantasies and science fiction can be found on one shelf. You can also find books on tape, CDs, and documentaries throughout the library. I enjoy reading books about dinosaurs, devils, and mythical characters, which are all easy to find in the library.

Another reason I like going to the library is that it's quiet and when I read I'm not interrupted. I can read without listening to my sister and her friends run around making noise. I also can't be asked to do chores around the house.

Last of all, there are book fairs at the library that are a lot of fun. I can win prizes for answering questions correctly. There are also treasure hunts where kids win prizes for finding information from certain books. When I need a break from the fun and games, I find a cozy place to sit and read.

The library is great. It is the most productive way to spend an afternoon. It has more books and information than you can imagine. It provides the peace and quiet that everyone needs from time to time. Most importantly, it creates an atmosphere where learning is fun. No wonder this is the place I always want to be.

*instructional breaks, such as when students are lining up to leave the classroom. He also awards students stickers on the classroom chart when they identify the difference between meaningful and nonmeaningful changes in sentences or for memorizing questions on the yellow cards. Finally, he asks some students to write down personal self-statements on the top of their papers when revising and gives others a list of self-statements to choose from when using the strategy during independent practice.*

***Stage 5: Support it.*** During this stage, students work as a class and then in small groups, receiving assistance from the teacher in making decisions on how to apply the revising strategy. Teachers may ask students to use FIX, self-statements, and self-regulation processes to revise pretest essays so that they can focus on revising rather than the entire writing process.

Although one goal of this stage is to allow students more responsibility in using FIX, it is important to realize that when beginning this stage, there are several key times to interact with students. For example, before students revise a paper together, teachers should encourage them to choose appropriate self-statements to regulate strategy use and the writing task. Second, it is helpful to circulate among students' desks as they work in order to give advice and feedback to students about the quality of their revisions. Students often need help identifying problems and executing changes that improve the overall quality of their text. Further, students may need help learning which self-question is relevant for a given problematic sentence (e.g., "Am I getting away from the main point?") or deciding which editing task on the green card should be used.

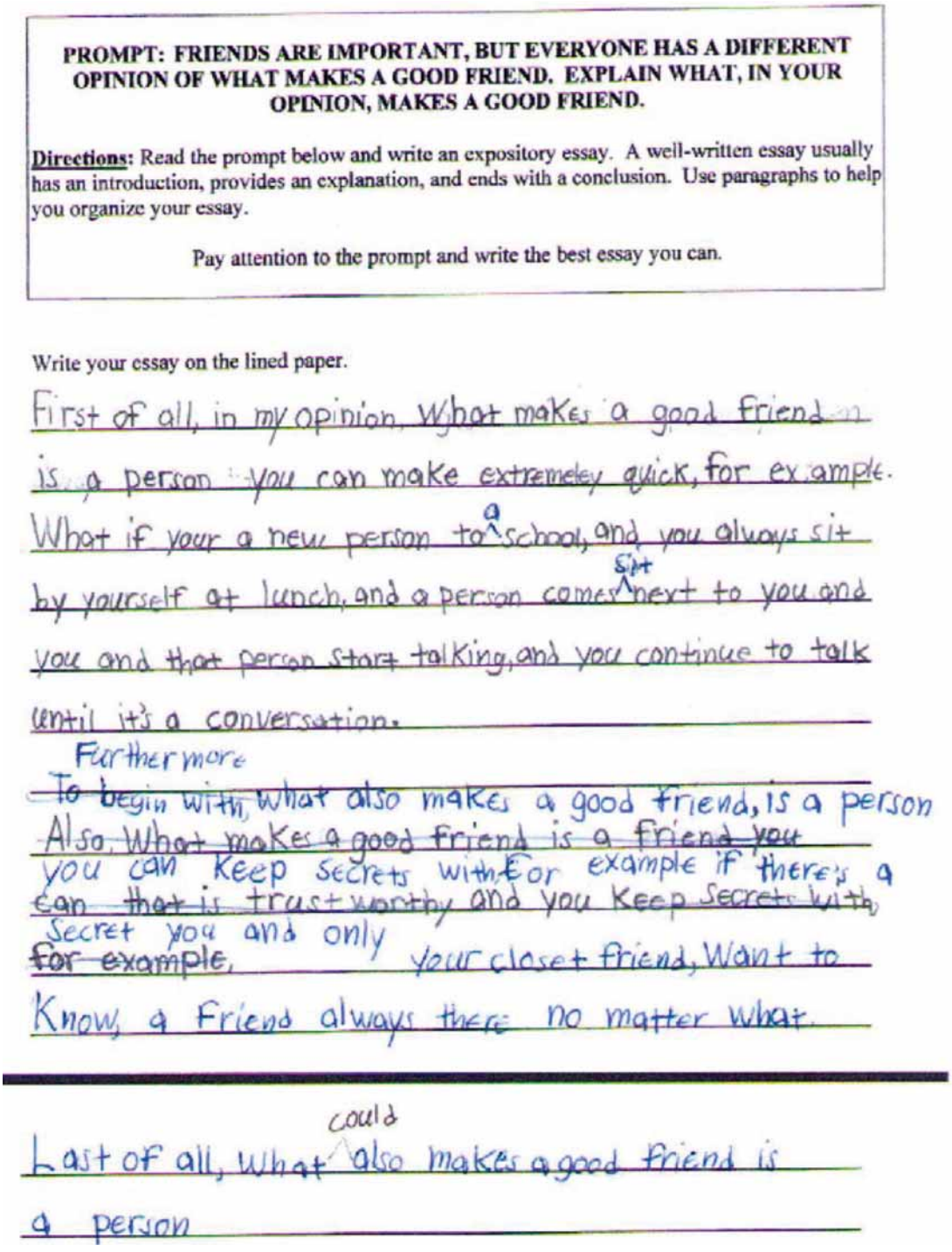
Finally, during Stage 5, as students are developing skill in implementing FIX, requiring students to set a goal to make a reasonable number of meaningful changes (e.g., five) when revising helps ensure students' active engagement early on. Self-regulation procedures, such as goal setting and self-monitoring, should be adapted to meet the needs of individual students. For example, a student who consistently writes run-on sentences might set a goal to listen to the pauses in voice when rereading aloud. Other students might chart the number of meaningful changes in their essays. We suggest teachers end this stage when students express an interest in independently revising their essays.

*During this stage of instruction, Isaiah works with a friend to revise one of his essays, and then a week later they both help revise a friend's paper. To help them learn to identify sentence-level errors, their teacher asks all students to read their papers carefully and to visualize information to decide whether information in their papers matched what had been intended. Their teacher reinforces basic understanding of essay elements during warm-ups by asking them to look at sample essays and decide whether elements are missing or need improvement. On other days, he shares sentence pairs on the overhead and asks students to pair-share and decide whether the first and second sentence mean the same thing or if one sentence in the pair differs in meaning from the other.*

**It is important for teachers to know that before modeling, they should plan what to say and do so that they can comfortably demonstrate the steps and self-regulation procedures in FIX in front of students.**

***Stage 6: Independent performance.*** The goal for this stage is

**Figure 5. Isaiah's Posttest**



**PROMPT: FRIENDS ARE IMPORTANT, BUT EVERYONE HAS A DIFFERENT OPINION OF WHAT MAKES A GOOD FRIEND. EXPLAIN WHAT, IN YOUR OPINION, MAKES A GOOD FRIEND.**

**Directions:** Read the prompt below and write an expository essay. A well-written essay usually has an introduction, provides an explanation, and ends with a conclusion. Use paragraphs to help you organize your essay.

Pay attention to the prompt and write the best essay you can.

Write your essay on the lined paper.

First of all, in my opinion, What makes a good friend is a person you can make extremeley quick, for example. What if your a new person to a school, and you always sit by yourself at lunch, and a person comes sit next to you and you and that person start talking, and you continue to talk until it's a conversation.

Furthermore

To begin with, what also makes a good friend, is a person Also, What makes a good friend is a friend you you can keep secrets with, for example if there's a can that is trustworthy and you keep secrets with, Secret you and only for example, your closet friend, Want to Know, a Friend always there no matter what.

Last of all, what could also makes a good friend is a person

for students to revise their work independently. Ask students to use the strategy and self-regulation procedures on their own, but allow them to ask questions (and monitor their progress) as they work. After students make meaningful changes independently, they may be encouraged to use the strategy without using the colored cards. In our work, we established the following criterion for ending independent practice: Students needed to (a) recall the strategy; (b) use the strategy twice without relying on red, yellow, or green cards; (c) generate essays that included all the elements of an expository essay; and (d) make at least five meaningful changes.

*During Stage 6, Isaiah puts his colored cards face down under his essay as he revises his essay. His teacher has suggested that each child write down and cross out the letters* F, I, *and* X *while working through each step of the strategy. That way, he can monitor their progress without asking them to stop working. Later, after students finish revising, they*

*exchange essays with a partner and chart the number of meaningful changes in their papers. A few days later, students are told they have three "lifelines" to use when revising. Their teacher tallies each time a student asks for assistance to encourage them to work as independently as possible, asking questions only when they really need his help.*

After instruction, Isaiah included more information in his essay, rewrote one sentence, and added meaningful text after instruction ended (see Figure 5). He made more meaningful changes and also made minor edits. These revisions revealed close attention to the flow of his ideas and improved his overall writing. It is possible that Isaiah may have run out of time in making meaningful changes because he had only one class period to revise during our research study. Therefore, although Isaiah still had room to improve his writing, his revised essay demonstrated an improved understanding of the revising process and a better expository essay. He continued to independently revise his writing 1 month later, demonstrating that the revising lessons had a lasting impact on his writing.

After students have learned to apply FIX using one genre, other genres can be introduced. For example, the next unit may focus on story structure elements (e.g., setting, characters, beginning and ending actions, and emotion). Encourage students to use questions such as "Have I developed my character over the course of the story? Is my setting (place and time) well developed? Is my plot interesting? What does my main character do? Does my plot include a logical sequence of events? Does my story reveal my characters' emotions? Is there a climax to my story? Do leading events build tension? Does my story have a good ending (resolution)?" Questions can be modified in order to be grade-level appropriate.

## FIX and English Language Learners

In our research study, about half of our participants were learning English as a second language and half were students with learning disabilities (some students were identified as having learning disabilities and were also English learners). We found that English learners benefited from explicit instruction on the use of vocabulary, grammar, syntax, or writing conventions in addition to using FIX as outlined here. For example, students who used the same word over and over again in their writing (whether due to lack of vocabulary or problems with word retrieval) added self-questions on their yellow cards to identify whether or not they were using a word repeatedly. Modifications like these were added to FIX and were suggested in conjunction with instruction that helped students develop their academic vocabulary (Graves, Valles, & Rueda, 2000).

## Conclusion

Teaching students to master FIX requires a series of lessons over time with active monitoring of student learning. We believe that successful revision requires writers to focus on both big-picture and surface-level problems. At the end of our project, one teacher said, "This procedure made revising easier for my students. . . . I think they became better [writers] overall because they learned a process to check and reread their work." Teaching revising strategies with SRSD has been shown to be an effective approach to instruction (Saddler & Graham, 2005). FIX is a powerful way for students to revise because it directs them to coordinate a series of concrete actions during revising and can be flexibly used as part of an overall writing program.

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# Whole-Group Response Strategies to Promote Student Engagement in Inclusive Classrooms

Sarah A. Nagro, Sara D. Hooks, Dawn W. Fraser, and Kyena E. Cornelius

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*Students with learning disabilities are often educated in inclusive classrooms alongside their typically developing peers. Although differentiated small-group instruction is ideal for students with learning disabilities, whole-group instruction continues to be the predominant instructional model in inclusive classrooms. This can create major challenges for teachers as they aim to actively engage all students, including students with learning disabilities. There are variations of whole-group response strategies, however, that teachers can use to accommodate a range of individual student needs. Collecting formative assessment data during whole-group instruction also can inform instructional decision making.*

To be successfully included in general education settings, students with learning disabilities must have a sense of belonging. Many teachers may find it challenging to actively engage all students, including students with learning disabilities who struggle with academic risk taking and perseverance, resulting in lower levels of participation and peer interactions (Gurganus, 2007; McIntosh, Vaughn, Schumm, & Haager, 1994). Students with learning disabilities face challenges across subject areas due to deficits in organizational skills, higher-order thinking, working memory, retention, and making connections (Alloway, 2011; Gurganus, 2007; Montague, Krawec, Enders, & Dietz, 2013). Despite the success of various research-based academic interventions, many students with learning disabilities require additional help understanding how to assess their own level of comprehension as well as how to approach active engagement in learning (Montague, Warger, & Morgan, 2000).

Although small-group differentiated instruction has been demonstrated as particularly effective for students with learning disabilities (Kim, Linan-Thompson, & Misquitta, 2012; Montague & Rinaldi, 2001), whole-group instruction continues to be the predominant instructional model in inclusive classrooms (DiCarlo, Pierce, Baumgartner, Harris, & Ota, 2012). Given how often whole-group instruction is implemented, teachers should strive to incorporate strategies that increase opportunities for student participation, engagement, and self-evaluation. Teachers can use a continuum of strategies during whole-group instruction to maintain student engagement, gather information to inform future instruction, and monitor student progress. This continuum ranges from proactive strategies that promote engagement to reactive strategies in response to students who become disengaged (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008).

**Teachers can use a continuum of strategies during whole-group instruction to maintain student engagement, gather information to inform future instruction, and monitor student progress.**

Although the continuum of strategies is needed to address student learning and behavioral needs, proactive strategies are preferred because they maintain active learning and have potential to prevent problematic behaviors.

Proactive strategies encourage active engagement of all students, including students with learning disabilities (Reglin, Akpo-Sanni, & Losike-Sedimo, 2010). Specific examples of proactive strategies that can be implemented during whole-group instruction include proximity, high rates of opportunities to respond, high-probability requests, and choice making (Wehby & Lane, 2009). For example, whole-group questioning-and-response systems include proactive strategies, such as high rates of opportunities to respond and high-probability requests, by prompting all students to participate through verbal, gestural, written, or digital modes of responding. Such proactive strategies are important during whole-group instruction in inclusive classrooms, where traditionally the number of opportunities to respond is limited due to prompting techniques that rely on individual student responses (Maheady, Michielli-Pendi, Harper, & Mallette, 2006). Given that high-achieving students are more likely to volunteer responses than students with learning disabilities, finding ways to question all students can promote student interest in learning, activate prior knowledge, and improve comprehension in an inclusive manner (Maheady et al., 2006).

When implemented effectively, proactive whole-group instruction can help students with learning disabilities feel they belong in the learning community and provide opportunities for peer interaction and active participation (McLaughlin & Allen, 2009). Further, whole-group response systems create a method by which teachers can track student participation and measure current performance or understanding of all students at the same time through formative assessment. Formative assessment occurs during instruction, has low or no stakes attached to it, and is intended to inform teachers' future instructional decisions (Cornelius, 2013). This type of assessment means more than simply tracking if students with disabilities are "on task." Teachers should also measure how students engage in their own learning during whole-group instruction. For example, teachers can monitor progress on students' individualized education program (IEP) goals and evaluate their learning of curriculum standards in the general education classroom (Alexandrin, 2003). The goal of tracking active student engagement is to capture evidence of opportunities for students

to answer questions, work with peers, and complete tasks independently (Maheady et al., 2006), which are all necessary if students with learning disabilities are to find success in inclusive classrooms.

There are ways teachers can effectively include students with learning disabilities in whole-group instruction. Specifically, variations of whole-group response strategies can accommodate a range of individual student needs. Hand signals, response cards, and written response strategies are three possible response strategies. In addition, collecting formative assessment data during whole-group instruction can inform student groupings, identify areas of relative need and strength, and track progress toward IEP goals.

## Whole-Group Responding Through Hand Signals

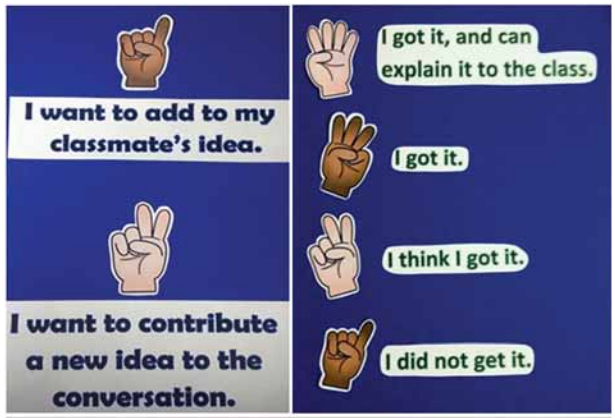
Hand signals can be used to promote student engagement and check for comprehension. For example, teachers can use a hand signal strategy to facilitate class discussion. Specifically, teachers can guide discussion by selecting students who want to share new ideas (students holding up one finger) or add to the current idea (students holding up two fingers), as illustrated in Figure 1. This strategy can prevent the discussion from veering off topic and allows teachers to ensure a comprehensive discussion of one idea by selecting students who want to add to the same point before moving on to a new idea. This strategy is a way to scaffold the discussion because students must consider not only what they want to share but also how their idea contributes to the conversation. Scaffolding in this manner increases comprehension for students with learning disabilities by targeting both cognitive and metacognitive development (Frey & Fisher, 2010).

Whole-group hand signals also can be used to check for comprehension. Comprehension checks using whole-group hand signals can help teachers redirect the lesson before students become frustrated or disengaged. This type of whole-group responding also promotes engagement because it holds students accountable for their learning by asking students to self-evaluate and reengage in the learning process. Comprehension checks are important for students with learning disabilities, who can be left behind during a lesson because they struggle with working memory or the ability to simultaneously store and process information to complete cognitive tasks (Alloway, 2011; Dehn, 2008).

Incorporating comprehension checks into a lesson at specific points allows teachers to note patterns of student comprehension surrounding specific concepts (Berry, 2006). Teachers who use hand signals to facilitate comprehension checks should include a scaled response system similar to the four-point system illustrated in Figure 1 rather than a dichotomous "I understand" or "I don't." Valuable learning can occur when students reflect upon their own learning to offer a degree of understanding rather than being asked discreetly, "Do you understand?" or "Does this make sense?" (Haydon, MacSuga-Gage, Simonsen, & Hawkins, 2012). Special educators can create peer discussion opportunities for students based on the degree to which they understand. Students who feel confident to turn and teach a classmate can pair up with those who are not sure if they understand a given concept (Maheady et al., 2006). By engaging in peer learning opportunities, students with disabilities can hear classmates use age-appropriate language to emphasize the concepts taught and self-correct their own thinking (Fuchs & Fuchs, 2005). Teachers can use this opportunity to measure student learning and understanding of concepts by listening to student conversations and jotting down notes on the formative assessment template they are using to monitor understanding (Alexandrin, 2003; Cornelius, 2013).

Capturing information using formative assessment charts allows

**Figure 1. Hand Signals With Example Tracking Chart**




Self-Evaluation Student Check During Science (Biomes) on 9/23/15
(Subject or task) (Date)

| Student | Comprehension Check 1 | Comprehension Check 2 | Comprehension Check 3 | Comprehension Check 4 | Conclusions |
|---|---|---|---|---|---|
| Joyce | 1 (2) 3 4 | 1 2 3 4 | (1) 2 3 4 | 1 2 3 4 | Joyce felt unsure during the writing independent activity |
| Dan | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | Dan was confident throughout and said he learned this during Summer camp |
| Maaz | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | (1) 2 3 4 | Maaz said he didn't understand the exit ticket (written directions) |
| Olivia | (1) 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | Olivia said she couldn't match pictures with terms |
| Nima | 1 (2) 3 4 | 1 (2) 3 4 | 1 (2) 3 4 | 1 (2) 3 4 | Nima wasn't feeling good and it impacted science |
| Anne | 1 2 3 4 | 1 2 3 4 | 1 (2) 3 4 | (1) 2 3 4 | Anne got frustrated during independent activity |

*Note.* See http://trackstudentlearning.weebly.com for customizable tracking charts.

teachers to make decisions about future lessons; this is otherwise known as *assessment-driven instruction* or *data-based decision making*. In the example in Figure 1, the teacher collected information about students' self-reported comprehension levels. The teacher noted repeated comprehension issues (students who responded using 1s and 2s), and also noticed that both Anne and Joyce struggled during independent tasks throughout the lesson. In this case, the special educator can co-plan with the general educator to build in a small-group preteaching opportunity to model independent tasks for Anne and Joyce. The information collected helped the teacher notice students who needed greater levels of support to feel confident about independent tasks during whole-group instruction. To access, download, customize, and print the formative example chart illustrated in the example in Figure 1, visit http://trackstudentlearning.weebly.com/.

## Whole-Group Responding Using Response Cards

Teachers often use whole-group responding by posing a question in which all students verbally answer in unison, also known as *choral responding*. However, it can be hard to track individual student accuracy during choral responding, and students with learning disabilities who lack confidence can become passive learners. In some instances, students will not participate at all when prompted to respond verbally (Berry, 2006). One alternative to verbal or choral responding that has been shown to increase student participation is the use of response cards (Randolph, 2007). Response cards involve students holding up cards with predetermined answers to respond to a teacher-initiated prompt, eliminating the need for verbal or written responding. Many students with learning disabilities struggle with writing mechanics, such as handwriting, spelling, vocabulary, and text structure (Gregg & Mather, 2002). When students face such challenges, teachers can use response cards to encourage active participation.

Figure 2 provides examples of flashcard-sized response cards that can be used with a wide range of students and situations. Response cards can be true–false or multiple choice or more content-specific, such as a set of graphemes, vocabulary words, parts of speech, or story elements. Response cards can even be a list of key words that students hold up during a multistep problem to further monitor comprehension and sustain student attention, particularly students with learning disabilities who struggle with organizational skills and making connections (Alloway, 2011; Montague et al., 2013). The purpose is to create a positive learning community so all students, including students who would otherwise not participate, have frequent opportunities to respond and actively learn (Heward et al., 1996).

Some students may require additional wait time or prompting to generate a correct response (Johnson & Parker, 2013). Peer supports and wait time can be used during response-card activities to address the needs of students with processing delays. For example, think–pair–share—where students think through their response, express their reasoning to a peer and obtain immediate feedback on their understanding, and then share their response card out in the whole group—has been found to sustain engagement and enhance critical thinking (Tyminski, Richardson, & Winarski, 2010). Students with learning disabilities, who may lack metacognitive skills, can be taught appropriate peer-to-peer interactions during whole-group instruction by reviewing a "look, lean, and whisper" approach (Archer, 2008).

Figure 2 also illustrates how student data, including response and accuracy rates, can be collected during whole-group instruction that includes response cards. Tracking the rate and accuracy of student participation can help predict the academic performance of students with learning disabilities (Gersten et al., 2009). In this example, the teacher was working with 11 students during a direct instruction block, and the objective was to identify pennies, nickels, dimes, and quarters by holding up the corresponding response card when prompted. The teacher used a chart that matched her seating arrangement, and each desk on the chart represented one student. Throughout the math lesson, the teacher

**Figure 2. Response Cards With Student Tracking Chart Example**

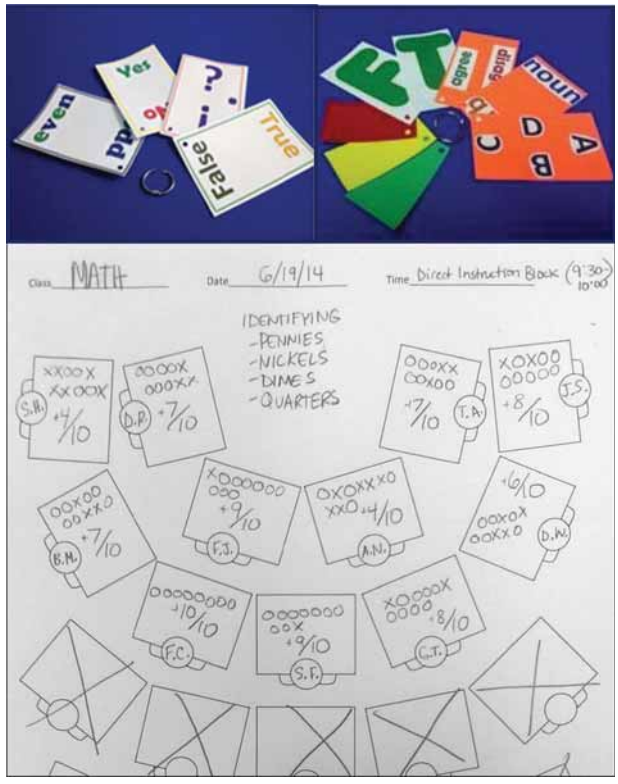
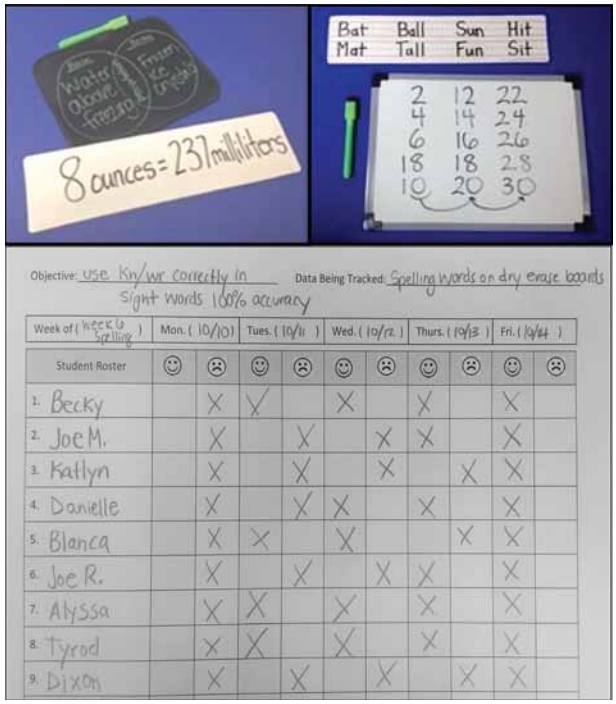


**Figure 3. Dry-Erase Written Responses With a Student Tracking Chart Example**




noted whether students held up correct or incorrect response cards when prompted to identify types of coins. Using this method, the teacher was able to monitor her students' progress toward mastery of the content. This type of formative assessment tracking chart can be used to track progress toward IEP goals or to provide specific information about student participation and accuracy for a given learning objective. Recording progress toward individualized goals and objectives becomes as simple as noting how many opportunities the student had, to identify coins, for example, and how often he or she was accurate. Using the example provided in Figure 2, the special educator may decide to pull Simon (S.H.) and Anna (A.N.) into a small group to reteach using guided practice, scaffolded instruction, or a gradual-release model because these students answered only four out of the 10 questions correctly.

## Whole-Group Responding Through Writing

Whole-group response strategies can include written responses on exit tickets, open-ended poll questions, surveys, and dry-erase boards. Written responses may be more appropriate than hand signals or response cards in situations where teachers need to accurately capture and make judgments about student learning related to instructional objectives (Thiede et al., 2015). Teacher prompts can be content specific or can target learning and thinking skills, such as taking a stance on a topic or explaining one's own reasoning to promote reflection (Miranda & Hermann, 2015). Further, whole-group probes that require written responses can be open-ended or require students to show their work as opposed to closed-ended-only probes during response cards or hand signals. Rather than asking only a portion of the students to actively engage in solving an equation during math class, all students can work on solving the math equation at the same time using whole-group written response systems. This also prevents students from skipping ahead because they are all working only on a singular probe at the same time (Archer, 2008).

Figure 3 illustrates how to use dry-erase boards during whole-group instruction. Students can write a vocabulary term, rewrite a sentence using correct punctuation, or construct an extended response to a probe. Students also can create pictorial or representational written responses when the teacher probes allow for it. Building in classwide wait time or using a visual timer to indicate when students can respond provide all students with an opportunity to participate (see Johnson & Parker, 2013). When asking for written responses beyond one sentence, consider including sentence starters or a mnemonic device such as POW (**p**ick my ideas, **o**rganize my notes, **w**rite and say more), because students with learning disabilities require planning time and a way to organize their thoughts before writing (Graham & Harris, 2003).

The formative assessment chart in Figure 3 includes data collected throughout an entire week to track how students performed during a 5-minute spelling check before lunch each day. Students were asked spelling words from their list, and the teacher simply wanted to track if students were error free or not during this 5-minute activity. The hope was that by Friday, all students would write spelling words without error. A chart like this can be used in many different ways to track student participation and learning. In this example, the teacher was checking for content mastery and used this information to determine which spelling words to include in area or station work throughout the week. This type of formative assessment chart allows for differentiation and a way to guide co-planning. For example, Becky, Alyssa, and Tyrod were introduced to more complex spelling patterns during station work with the general educator because they reached and maintained mastery of the class spelling words early in the week. Katlyn, Blanca, and Dixon, on the other hand, worked with the special educator to create self-correcting materials that reinforced the spelling patterns they were struggling with during whole-group spelling checks.

## Final Thoughts

Teachers need methods for engaging students with learning disabilities in a

positive learning community when whole-group instruction is unavoidable. Increasing students' opportunities to respond and providing student comprehension self-checks as well as capturing this information using formative assessments are very important topics for all teachers. The strategies we have discussed in this article can be used across content areas and in a variety of settings. Teachers can use the information gathered through increasing students' opportunities to respond as a way to both monitor progress and inform instruction.

The formative assessment templates will become a student data log over time. There is no need to create extra work by transferring the data to another form. Simply photocopy the completed templates and keep them in each student's file for future reference. Look for patterns within subject areas or over a set period of time. Note whether specific students respond to one type of whole-group response strategy over another to make decisions about future class activities. Whether they are addressing student engagement, content understanding, or targeted IEP goals, teachers will have evidence at their fingertips to reflect on as they plan lessons. Teachers can group students for cooperative activities based on patterns among student answers as well as determine which students require small-group specialized instruction to preteach or reteach key concepts. Together, these tools can provide teachers with valuable data they need to make important instructional decisions.

Proactive whole-group response systems paired with formative assessment charts have the potential to result in more effective instruction that actively engages students in the learning process. These strategies can be implemented easily in classrooms with minimal additional resources and are applicable across grade levels and content areas with appropriate modifications. Students with learning disabilities have demonstrated deeper engagement and understanding as well as positive student–teacher and peer-to-peer interactions using the strategies we discuss (Berry, 2006; Clunies-Ross, Little, & Kienhuis, 2008; Randolph, 2007). To achieve positive results, it is important that teachers create safe learning environments where students with learning disabilities are encouraged and feel confident to take risks in revealing responses that reflect their own understanding. Using repetitive whole-group response strategies can build predictability into the lesson, which has been shown to lower anxiety and increase participation (see Heritage & Heritage, 2013). Teachers can reinforce a safe learning community by moving around the classroom, observing student work to ensure it matches their responses, and having students engage in peer discussion (Alexandrin, 2003). Proactive whole-group response strategies combined with formative assessment charts promote active student engagement and streamline progress monitoring for special education teachers.

**Increasing students' opportunities to respond and providing student comprehension self-checks as well as capturing this information using formative assessments are very important topics for all teachers.**

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# Using Explicit and Systematic Instruction to Support Working Memory

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*Charlotte is a third grader at Evergreen Elementary who has working-memory difficulties that interfere with her learning beyond those challenges associated with her reading disability. These difficulties, although present every day, are almost unnoticeable as a persistent learning need that requires additional teacher support. Yet, Charlotte's difficulty processing multiple pieces of information at the same time impedes her ability to effectively engage, attend, and make important connections required for advancing her learning. Ms. Oratio, the special education teacher at Evergreen, has been noticing that Charlotte has difficulty following multistep directions, even when she appears to pay attention and understand the task. For example, by the time Charlotte gets to the second step of a mathematics word problem, she has forgotten what to do next. Although Charlotte seems to be trying her best, Ms. Oratio* frequently *needs to redirect Charlotte to get "back on track" during independent seatwork because she has a tendency to be off task while others are fully engaged. Ms. Oratio has also noticed that Charlotte needs extra time and greater support than her peers to make connections with what she has previously learned; without it, important relationships among concepts don't seem to "stick" and Charlotte gets easily confused. Because Charlotte is unable to effectively self-regulate all that her brain simultaneously processes, her working-memory difficulties pose a particular threat to her academic success.*

Many teachers, like Ms. Oratio, observe students struggling in a variety of ways with a range of tasks every day in school. Although learning is considered an obvious part of schooling, the processes that enable it are covert and not accessible to teachers for observation, re-direction, or immediate correction. One important aspect of learning often taken for granted is the expectation that learners successfully engage in complex thinking about multiple pieces of information simultaneously, such as when following multistep directions, problem solving, or self-managing other implicit demands across a lesson or instructional goal (e.g., keeping track of relevant information that accumulates over extended periods of time). However, this seemingly basic ability is complicated, involving well-coordinated cognitive processing among at least three executive functions: inhibitory control, working-memory updating, and mental shifting (Miyake et al., 2000).

*Working-memory capacity* is typically characterized as the range of information that individuals can process at the same time to perform complex tasks (see Miyake & Shah, 1999, for an overview). The greater one's capacity, the more robustly attention can be controlled to effectively manipulate information and avoid processing interference (Engle, 2002). This mental multitasking is accomplished by concurrent processing that emerges from coordinated and timely control of one's attention to information accessed from highly activated long-term memories or temporarily maintained short-term memories (Barrouillet, Bernardin, & Camos, 2004). In this way, working memory functions like a mental "spotlight" that selectively shines on relevant information from one moment to another to actively keep relevant material in mind as needed for processing (Rohrer, Pashler, & Etchegaray, 1998). Ineffective functioning of this working-memory spotlight increases the risk that distracting information will disrupt thinking by allowing nonrelevant information to be processed, which can overload limited capacities (Engle, 2002) or obstruct efficient spotlight shifting in ways that cause forgetting (Barrouillet et al., 2004).

Students with poor working memory are less successful at completing complex tasks, exhibit greater distractibility and forgetfulness, and need teacher redirection or reteaching more often than their peers (Alloway, Gathercole, Kirkwood, & Elliott, 2009). Thus, poor working memory can contribute to learning difficulties through the burden it places by surreptitiously fragmenting task engagement. Students who forget what they are doing or become easily distracted when performing complex tasks are likely to experience undetected but repeated disruptions that result in disjointed learning and confusion. Classroom observations of children with poor working memory have revealed clear difficulties in keeping up and effectively using what they know during lessons (Gathercole, Lamont, & Alloway, 2006).

Students with learning disabilities may particularly struggle with classroom activities that require mental construction and integration of, or modifications to, information in real time because the challenges associated with the disability can place additional constraints on their working memory capacity, making them more vulnerable to mental overload or forgetting. Decades of research have shown that children with various learning disabilities experience working-memory difficulties (deJong, 1998; Siegel & Ryan, 1989; Swanson & Jerman, 2006), and recent findings indicate that successful intervention outcomes may partially depend on working-memory capacity (Swanson, Lussier, & Orosco, 2015). For example, Swanson et al. (2015) found an effect of working-memory capacity among children with math difficulties, in that greater growth in postintervention problem-solving accuracy was associated with higher capacity. Moreover, the researchers also reported differential intervention strategy effectiveness that was associated with working-memory capacity. It is important to note that the intervention approach used by Swanson and colleagues employed elements of explicit and systematic instructional design, which we address in our recommendations.

Because concurrent processing facilitates the self-management of information flow, working memory functions best when the design and delivery of academic information effectively controls students' attention to prevent mental overload and promote efficient remembering (Artino, 2008). Because the self-regulation of

thinking and doing is not visible, methods that help to make the learning process more observable may be particularly beneficial for optimizing working-memory functioning.

*Explicit and systematic instruction* is an evidence-based practice for increasing students' reading and math acquisition through unambiguous and careful sequencing of skill-building activities (Gersten et al., 2008, 2009). Studies on explicit and systematic instruction have reported strong effects on student outcomes. In reading, for example, past and recent research has shown that students with reading difficulties draw significant benefits from instruction that is systematically designed and explicitly delivered (Gersten et al., 2008). Mathematics intervention studies echo this beneficial effect. For example, Gersten et al. (2009) synthesized 41 mathematics intervention studies and reported a large effect for interventions that employed a systematic and explicit instructional approach on the outcomes of students who face difficulties in mathematics.

Although research has yet to pinpoint the specific mechanisms of explicit and systematic interventions that improve student achievement (e.g., Doabler et al., 2015), it is reasonable to assume that the effectiveness of such interventions is due at least in part to the indirect enhancement of working memory. Explicit and systematic instruction is a plain and orderly instructional approach that makes learning more accessible at crucial junctures *during* classroom activities rather than *after* lessons are complete. Consequently, the strategies of explicit and systematic instruction are highly relevant for improving students' working memory. Explicit and systematic instruction

- uses simple, brief, and concise language to reduce language demands;
- activates prior knowledge to enhance long-term memory accessibility;
- scaffolds instructional support to facilitate associations that students may miss when processing is overloaded;
- provides frequent review and practice to solidify effortless long-term memory accessibility;
- allows sufficient time to rehearse and process new information to minimize processing efficiency demands;
- includes visual aids to reduce verbal processing demands and make concepts more plain; and
- provides specific feedback to catch misconceptions that may later intrude on processing (Dehn, 2008).

We believe that when such strategies are well integrated, they are ideal for facilitating working memory.

Methods that help to make the learning process more observable may be particularly beneficial for optimizing working-memory functioning.

## Facilitating Working Memory

Initial learning across different academic areas is effortful and attention demanding for all learners (Ackerman, 2005). As skills become more deliberately practiced, learners come to rely more on direct retrieval of integrated long-term memorized procedures and less on attention-demanding working-memory processing. Therefore, the management of working-memory load is essential to supporting active processing during the initial stages of skill building, when the material is novel and lacks previously established long-term procedural memories. Working-memory support remains important during the intermediate stage of learning when the task is sufficiently complex and inherently requires concurrent processing for task performance (e.g., during reading comprehension, writing, or complex mathematics). A student's level of skill development and criterion level of performance—not the amount of time spent receiving instruction—determine the learning stage and needs for working-memory support. Struggling learners may require greater and longer working-memory support than either students with stronger initial skill levels or those with stronger working-memory capacity for self-managing their learning. With greater initial support, greater efficiency with learning is to be expected.

### Supporting Working Memory During Instruction

Although there are many definitions of explicit and systematic instruction, there are four defining features that teachers can implement to optimize working-memory support during reading and math instruction. Each feature aligns with recommendations for managing working-memory load during instruction and has benefits for optimizing working memory.

One feature is to **strategically select and sequence examples of new skills**. Instructional sequences build skills gradually by introducing skills first in isolation and then integrating them with other skills to enable students to practice and to build generalization. Ensuring that students have the necessary prerequisite skills will allow students to focus attention on the essential objective of the lesson. When too much information is presented at once, or when processing demands are too great (e.g., similar skills are taught together), working-memory functioning can become overwhelmed. The result of this cognitive overload is student confusion or forgetting. Therefore, to implement this instructional strategy, present information in a logical sequence in which less difficult skills are introduced and taught before more difficult and complex skills. Small amounts of information should be presented with adequate practice opportunities to ensure retention. For example, when identifying the sequence of teaching new

skills and strategies, consider (a) teaching easier skills before harder skills, (b) teaching high-frequency skills before skills that are less frequently used, and (c) separating skills or content that are similar during initial instruction of a new skill (e.g., separating the letters *b, d, p,* and *q* in a letter naming task; Archer & Hughes, 2011; Carnine, Silbert, Kame'enui, Tarver, & Jungjohann, 2006; Doabler & Fien, 2013).

A second feature is to **provide clear explanations and models**. Teacher explanations are used to introduce, demonstrate, and describe a task or activity using clear and consistent language. This allows students to see and hear the steps that are involved with a task, which sometimes can seem unclear to them. Unclear language can distract and overwhelm students' thinking by creating confusions that intrude on working-memory processing. Therefore, to implement this feature, use clear and unambiguous language to explain what students will do and model an example of how to complete the task. Whenever possible, "think aloud" to show students the steps that you are taking to complete the task, and demonstrate all the steps that you expect students to complete. This helps to make plain the mental steps needed for engagement, which alleviates the need for students to figure it out on their own (thereby creating additional working-memory demands). Use familiar vocabulary and simple sentences that omit unnecessary information. When introducing new strategies, skills, and content, activate prior knowledge by connecting to past ideas and content and identifying connections to students' lives.

A third feature is to **carefully guide practice opportunities**. *Guided practice* refers to providing scaffolded support as students practice a new skill, and systematically withdrawing that support as students become more proficient. Supporting students during initial stages of learning a new skill gives them opportunities to be successful and confident in using the skill (Archer & Hughes, 2011; Carnine et al., 2006; Doabler & Fien, 2013). During guided practice, use the same wording as used in the explanation and modeling of the task to provide consistency. This allows students to focus attention on the new skill instead of figuring out the prompt. The use of visual memory aids— such as number lines, cubes, lists of steps, graphic organizers, and sentence starters—reduces working-memory processing demands because the information that must be worked with is tangible and not required to be kept in mind. As students demonstrate success, gradually increase task difficulty as you decrease the level of guidance (Archer & Hughes, 2011; Carnine et al., 2006; Doabler & Fien, 2013). Plan for frequent repetition and distributed practice of skills over days and weeks to allow for sufficient practice and rehearsal of information. As students are successful with the initial instruction, encourage active application and advanced manipulation of content.

A fourth feature is to **monitor student responses and provide immediate feedback**. Monitoring responses includes checking for engagement and accuracy throughout an activity to let students know whether their responses are accurate or not. Monitoring student responses closely and providing timely feedback immediately after a mistake allows teachers to catch early confusion and misconceptions. Providing timely feedback helps students deliberately encode only relevant and accurate information as long-term memories for later use. To implement this feature, carefully watch and listen to students' responses, focus on the target skill, and include modeling of the target skill or concept using clear and consistent language. Whenever possible, reinforce success by pointing out correct responses.

Although each of these identified features of explicit and systematic instruction may benefit working memory (see Figure 1), they are most beneficial when implemented together. For some content, each of these features may occur in one lesson (e.g., carefully sequencing content, explaining a task and modeling a skill, and providing guided practice with corrective feedback), but they also may be implemented across days for more complex content (e.g., summarizing information text might require multiple days of teacher models before students are ready for guided practice; Archer & Hughes, 2011).

When too much information is presented at once, or when processing demands are too great, working-memory functioning can become overwhelmed.

### Examples of Explicit and Systematic Instruction

Consider an example in which Ms. Oratio is teaching her group to identify the main idea of an expository text from supporting details. Identifying the main idea in one sentence can be challenging for many students. The aforementioned features of explicit and systematic instruction can be applied to more readily teach students to identify the main idea using details from text (see Dissen et al., 2013, for a comprehensive description of teaching steps for identifying the main idea of information text). To strategically select and sequence examples, Ms. Oratio considers that in previous lessons, she modeled finding details for her students. She thinks that her students are ready to find the details with her guided support but that they still will need modeling of how to find the main idea. She also carefully chooses the text to use to avoid overwhelming students' focus on the instructional target. Because her students are in the initial stages of learning the strategy,

**Figure 1. Features of Explicit and Systematic Instruction**


she chooses text with clear supporting details without distracting information.

*Ms. Oratio starts the activity by explaining and modeling the task, telling the group, "Now we will find the details and figure out the main idea of text. Remember, the details are the important parts of information. The main idea tells all of the details in just a few words. I will read to you this time. Follow along with your finger." Ms. Oratio reads the text aloud (see Figure 2) and the students follow along, using their fingers to track. Next, Ms. Oratio tells the students, "What is one detail that you learned? Turn to your partner and tell one detail that you learned. Start with, 'One detail I learned is….'" Ms. Oratio leans in to listen to the partner responses and writes accurate details on the whole-group organizer (see Figure 3) that she has displayed on a clipboard in front of the group. Ms. Oratio monitors closely and provides corrective feedback if students provide inaccurate details. When Charlotte is not able to identify a detail, Ms. Oratio says, "Let's look back at the text. Put your finger on one detail. Yes, that's a detail. Now say it in a sentence." Later, Ms. Oratio hears Charlotte correctly identify a new detail and says, "Yes, Charlotte, one detail is that some animals can get trapped." Ms. Oratio writes Charlotte's correct detail on the graphic organizer. Ms. Oratio then says, "We found the details. Let's review what we found." She then shows students the graphic organizer and reads the details aloud. Then she says, "Remember the main idea tells about all the details in just a few words. All of these details tell us why a tide pool can be a dangerous place for sea animals. So, I can say that the main idea is, 'A tide pool can be a dangerous place for sea animals.'" Ms. Oratio then writes the main idea on the graphic organizer for students to see. As Ms. Oratio plans future activities for teaching the main idea, and as students become more independent, she will reduce her support by having the students independently identify the main idea. The focus of this activity is on identifying the main idea, but when the focus is on reading accuracy and writing, Ms. Oratio may have the students read the text or write the details on their own. Over time, Ms. Oratio will also choose more challenging text that includes a greater variation of details, including some details that are not clearly related to the main idea, based on her students' readiness to handle greater complexity.*

Ms. Oratio also can apply the explicit and systematic instruction features during her third-grade math instruction. For example, she can use

**Figure 2. Example Read-Aloud Text**

*Let's take a close look at what can happen in a tide pool. Waves crash into the shore when the tide is high and can damage organisms. Most of the water goes back out at low tide and some animals can get trapped. The sun shines down on the tide pool and can make the water too warm for some animals. Seagulls, and other shore birds, eat many of the animals that live in tide pools.*

the features to teach her group how to represent categorical data on a scaled picture graph. Given that Ms. Oratio has modeled and explained how to design the picture graphs, during the third lesson she can directly show her students how to use the graphed data to solve "compare" word problems with the difference unknown. On future days (Lessons 4 and beyond), she can provide more guided practice with immediate feedback and less explanation as she reduces her support.

*Ms. Oratio begins the third lesson by reminding students about the structural features of comparing word problems (i.e., a comparison between two things using a common unit). This reminder helps prompt her students to retrieve known information about these problem types. Next, using data from Figure 4, Ms. Oratio poses the following: "I want to find out how many more cows live on the Garcia ranch than on the Lewis ranch." She explains that this is a "how-many-more" word problem and that she will need to subtract to find the missing difference.*

*To help her students work with how-many-more problems, Ms. Oratio verbalizes aloud how to solve the targeted problem, explaining that she plans to break the problem down into more manageable parts. Her reason for doing this is twofold. First, she wants to avoid overloading students' working-memory capacities. Second, she wants to promote students' early success with accurately recognizing and effectively implementing the mathematical structures of comparing word problem types that ask how-many-more questions (Gersten et al., 2009).*

*She tells the class, "This graph indicates that each picture represents 100 cows. Count with me by multiples of 100 to find out how many cows live on the Garcia ranch. 100, 200, 300 … 900. Nine hundred cows live on the Garcia ranch. So I will write 900 on the*

**Figure 3. Graphic Organizer for Teaching the Main Idea**

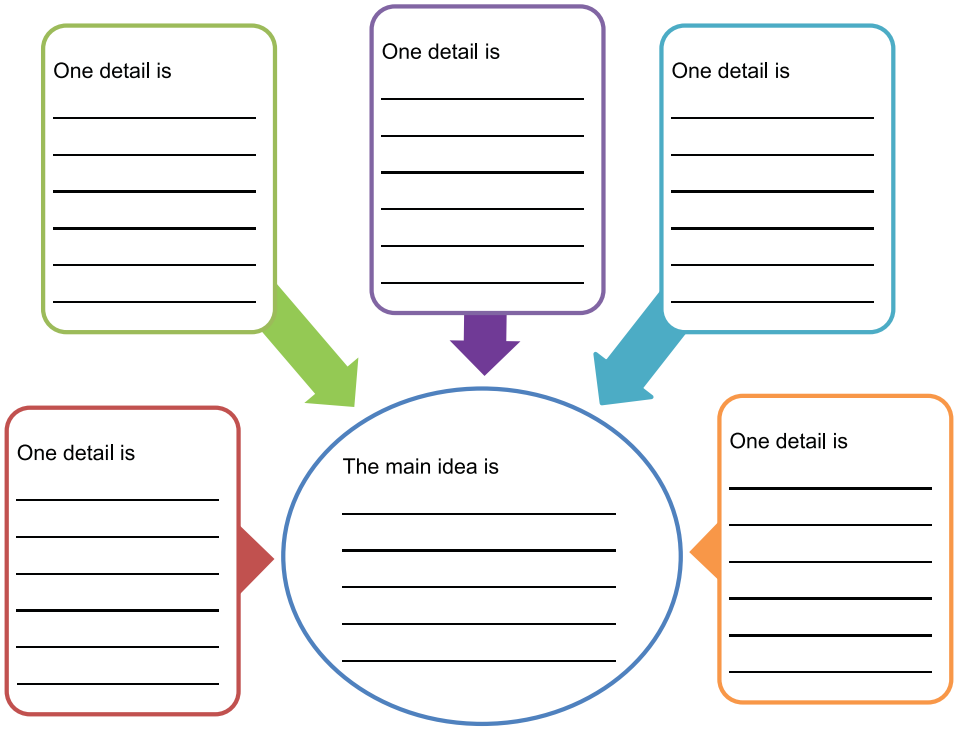
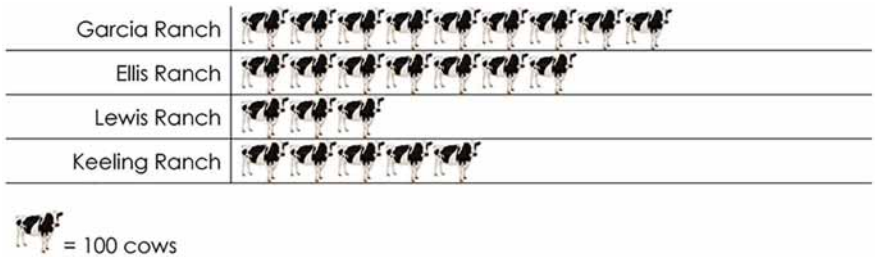


**Figure 4. Visual Representation of the Word Problem**




*board." Next, she asks Charlotte to count how many cows live on the Lewis ranch. Charlotte counts 300 cows and then Ms. Oratio writes 300 below 900 on the board. She then states, "Because I want to find how many more cows live on the Garcia ranch compared to the Lewis ranch, I will need to subtract 300 from 900." Ms. Oratio completes the subtraction problem and then states, "Nine hundred minus 300 equals 600. Six hundred more cows live on the Garcia ranch than the Lewis ranch."*

Both of these examples demonstrate how the features of explicit and systematic instruction can be applied to instruction to help students manage implicit working-memory demands. In addition to the four features just described, recommendations for organizing a classroom environment to support optimal working memory include:

- eliminating background noise (specifically speech and talking) that can interfere with working-memory processing,
- displaying materials to reduce what must be remembered (e.g., steps in routines, the classroom schedule, classroom rules and expectations),
- arranging space so that the teacher can move easily around the room for monitoring student work and providing quick feedback during practice,
- having extra instructional materials on hand (e.g., sharpened pencils) to keep students' attention to the task and not to items that may be forgotten or broken, and
- teaching routines and expectations (e.g., what to do when arriving to the group) to minimize distracting behaviors that may undermine task engagement and make unnecessary processing demands.

By managing working-memory load during instruction, teachers like Ms. Oratio can support students in focusing on the objective of the lesson, engaging fully in the activity, learning from their mistakes, and feeling confident in the learning process.

## Conclusion

Students are frequently expected to complete multistep tasks within a range of academic or classroom routines and to do so independently. Students' ability to complete these tasks successfully may vary as a consequence of both their working-memory capacity and the conditions under which they are expected to learn. Crucial features in the design or "architecture" of tasks, coupled with how tasks are staged and delivered, can influence a learner's working-memory ability to perform the initial tasks. Although students with learning disabilities are particularly vulnerable to mental overload during learning, all students can benefit from intervention approaches that strategically manage their processing efforts during instructional activities. Explicit and systematic teaching is an evidence-based practice that contains elements particularly well suited for supporting crucial working-memory processing needed for learning.

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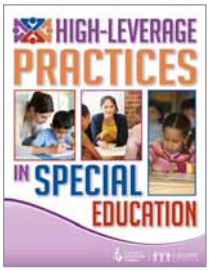


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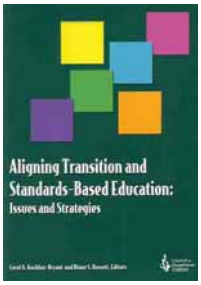


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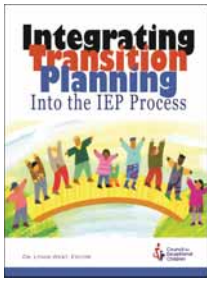


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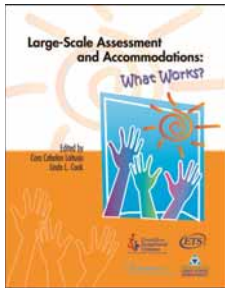


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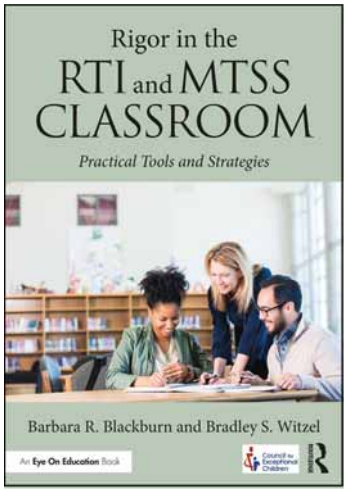


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