Increasing Communication and Language-Learning Opportunities for Infants and Toddlers

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The importance of communication and language development to the social and cognitive functioning of infants and toddlers is made clear when those abilities do not develop as expected (Warren & Walker, 2005). Communication and language deficits originating during early childhood can have a domino effect throughout a child's development, contributing in some instances to later learning disabilities or behavior disorders, as well as early reading and achievement deficits (e.g., Aram & Hall, 1989; Fey, Catts, & Larrivee, 1995; Scarborough, Dobrich, & Hager, 1991; Whitehurst & Lonigan, 1998). Because children who have delays in communication may be less likely to use communication skills during social situations, they may be more likely to use aggression or problem behavior to communicate (Hancock & Kaiser, 2006) and may eventually experience social isolation. When there are fewer opportunities for infants and toddlers to hear diverse, complex vocabulary or for them to have social exchanges where language is modeled and practiced, they are more likely to have smaller vocabularies at age 3 (Hart & Risley, 1995, 1999) and poorer literacy and readiness outcomes when they enter school compared with young children who have more positive early language-learning experiences (e.g., Burchinal et al., 2000; Dodici, Draper, & Peterson, 2003; Snow, Tabors, & Dickinson, 2001; Walker, Greenwood, Hart, & Carta, 1994). Therefore, delays in communication and language may significantly impact how young children access and participate in activities related to both social development and early literacy (Greenwood, Walker, & Utley, 2002; National Institute of Child Health and Human Development Child Care Research Network, 2000).

Tammy, an early childhood special education teacher and curriculum planner at an inclusive infant-toddler program that had both a home- and center-based component, understood how important communication and language development are for the infants and toddlers in her program. She noticed that those children who could initiate communication by pointing, signing, or using words were also much more likely to communicate with others and get positive attention from adults or peers. They were less likely to be frustrated, because they were able to communicate their wants and needs. Tammy wanted to strengthen the communication and language-learning opportunities provided to children in her classroom program. She decided to look for techniques that she could share with both program staff and parents to maximize children's opportunities across settings and routines. Tammy began looking for techniques that were found to be effective but at the same time easy to learn and implement with infants and toddlers who were at different developmental levels.

Intervention Approaches to Promote Communication

There are a number of evidence-based, naturalistic intervention approaches found to promote language and early literacy skills of infants and young children with and without disabilities. These intervention approaches have been developed to address communication and language intervention needs of children spanning diverse ages and developmental levels as well as intervention agents. Both milieu teaching and prelinguistic milieu teaching expand upon incidental teaching procedures introduced by Hart (1985) and are characterized by following a child's attentional lead, building social play routines, using prompts such as modeling, asking a question, or using time delay along with natural consequences such as giving the child the requested item when the child uses communication (e.g., Kaiser, Hancock, & Nietfeld, 2000; Warren, Yoder, Gazdag, Kim, & Jones, 1993; Yoder & Warren, 2002). Responsive interaction encourages adult responsiveness to child communication attempts and adult use of descriptive talk to increase a child's social communication (e.g., Kaiser & Delaney, 2001; Tannock & Girolametto, 1992; Trent-Stainbrook, Kaiser, & Frey, 2007). When using responsive interaction with young children, adults follow the child's attentional lead or interest and respond to the child's behavior

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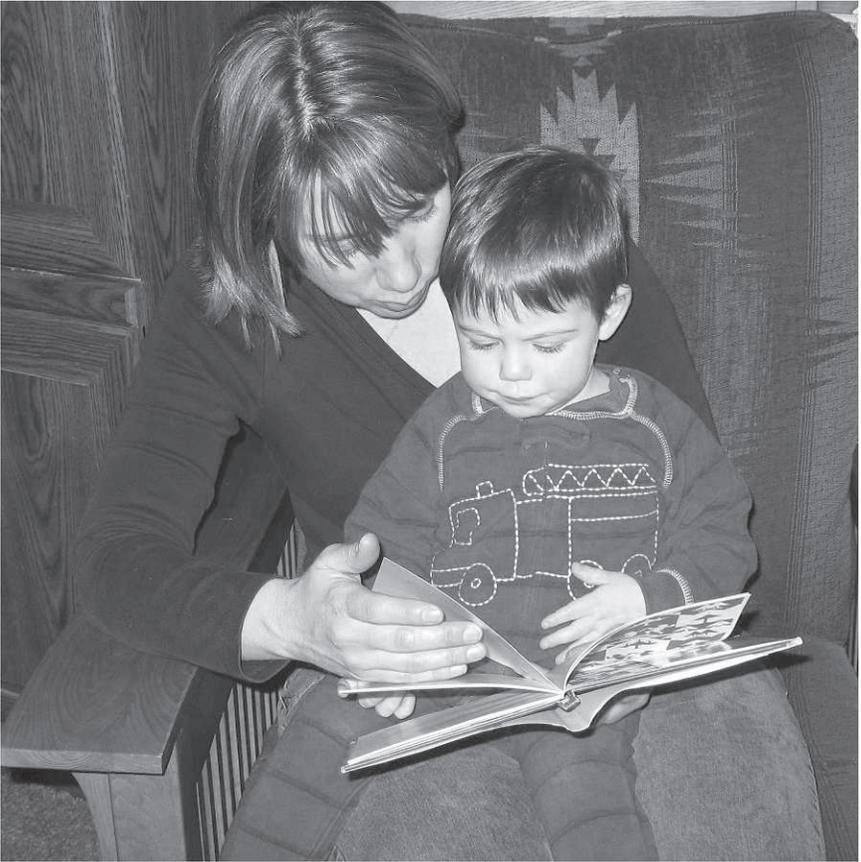
using modeling, recasting, and expanding on the child's communication attempts without being directive or using prompts such as questions or requests for communication.

There have been successful demonstrations of these approaches for increasing the communication and language of infants, toddlers, and young children with parents (Alpert & Kaiser, 1992; Bigelow, 2006; Peterson, Carta, & Greenwood, 2005) and with teachers (e.g., Goldstein & Kaczmarek, 1992; Harjusola-Webb, 2006). These approaches have been used during activities such as book reading (Cole, Maddox, & Lim, 2006; Lonigan & Whitehurst, 1998) and when providing support for social interaction (e.g., Craig-Unkefer & Kaiser, 2002; Sandall, Schwartz, & Joseph, 2001). These intervention approaches also have been described in early childhood curricula and intervention guides (e.g., Notari-Syverson, O'Connor, & Vadasy, 2007; Pretti-Frontczak & Bricker, 2004; Sandall & Schwartz, 2002) and are included in the *Division for Early Childhood Recommended Practices* (Sandall, Hemmetter, Smith, & McLean, 2005).

Although there is ample evidence supporting the use of these practices and their benefits for infants and young children, they still are not frequently used in inclusive, community-based early childhood education and home-based programs (Gomez, Walls, & Baird, 2007; Roberts, Bailey, & Nychka, 1991; Schwartz, Carta, & Grant, 1996; Smith, Warren, Yoder, & Feurer, 2004; Walker, Harjusola-Webb, Small, Bigelow, & Kirk, 2005). A descriptive study of inclusive community-based child care programs revealed that, in general, early educators infrequently used language-promoting strategies such as following a child's lead, commenting, and shared book reading. When they did use these strategies, however, infants and toddlers were more likely to communicate using gestures and words (Walker et al., 2001). More recently, when we compared community-based early childhood programs that were assigned randomly to participate in either a project designed to provide them training on intervention strategies to promote communication or a contrast group in which providers would follow their regular practices, differences were found in communication levels for those infants and toddlers who were exposed more often to language-promoting strategies compared with children who did not receive the intervention in their early childhood classrooms (e.g., Walker, Bigelow, Powell, & Mark, 2007; Walker, Harjusola-Webb, & Atwater, 2008). In all cases, when naturalistic teaching strategies were used to promote communication, children showed gains in language-related outcomes.

It is important that infants and toddlers are provided with positive language-learning opportunities throughout their everyday experiences.

Given the association between early language, literacy, and personal/social competency and the development of successful relationships, school-readiness, and life-related skills, it is important that infants and toddlers are provided with positive language-learning opportunities throughout their everyday experiences. Furthermore, it is imperative that early childhood educators understand and use these evidence-based intervention strategies to improve the quality of the early language-learning experiences they provide for young children at risk for and with disabilities. This article describes eight functional, evidence-based strategies that may be used by early childhood educators, interventionists, and parents to provide infants and toddlers with language-learning opportunities across their daily routines and activities.

Table 1
Strategies for Promoting Communication

Strategy	Description
Arrange the environment	Organize a child's surroundings, materials, and schedule of routines to promote communication
Follow child's lead	Notice what a child is interested in, looking at, playing with, or talking about, and then use that interest to provide opportunities for communication
Comment and label	Name or describe the actions in which a child is involved or the toys or materials with which a child is playing
Imitate and expand	Repeat a child's vocalization or words back to the child and expand by providing new, more complex information
Use open-ended questions	Ask questions that begin with who, what, where, how, and why to encourage a child to answer with more than just yes or no
Planned delay/Fill in the blank	During a predictable phrase, song, or saying, pause and allow a child to fill in the blank
Give positive attention	Listen and respond to attempts to vocalize and use gestures or words to encourage further communication
Provide choices	Provide two or more options from which a child can choose

Strategies to Promote Communication of Infants and Toddlers

The following strategies (Table 1), derived from prelinguistic milieu, milieu teaching, incidental, and responsive teaching approaches previously described, can be used in early childhood education center- and home-based programs. They can be implemented easily by early childhood educators, parents, or other caregivers and are uniquely suited for use with infants and toddlers with diverse communication and language-learning needs. The highlighted strategies are presented here in an abridged format from a manual developed in collaboration with early childhood research partners (Walker, Small, Bigelow, Kirk, & Harjusola-Webb, 2004).

These language-promoting strategies have been designed to be implemented easily across a number of routines and activities, such as play, meals, book reading, circle time, diapering, and outings. Their consistent use during daily routines is especially beneficial because they help to create predictability in these routines. When children know what to expect,

they are more likely to behave in a way that is appropriate to the routine. The additional benefit to using these strategies during daily routines is that they become part of the routine. Of course, it is imperative that in using these strategies, educators, care providers, and parents should be responsive to children's communication attempts. Merely using these strategies without listening to and responding to children's communication may work against the goal of increasing child communication. As adults use these strategies they must be sure to take turns with the child and encourage reciprocal interactions. In addition, it is very important that adults respond to the child's initiations and follow the child's lead in interactions in order to promote further communication and interaction. Children are then provided with natural repeated opportunities throughout each day to experience and practice communication.

1. Arrange the Environment

The environment in which the child learns comprises the physical structure of the classroom or areas within the home, the social interactions that occur, and the schedule of the day. Arrangement of the physical environment can involve a number of different strategies. By having a well-organized classroom or home environment, children can easily locate preferred toys or materials. See-through bins help to organize materials and make activities accessible to children and may help them independently choose and communicate about preferred activities. Bins placed slightly out of reach but within view encourage a child to request materials from the bins. Pictures of children, their families, teachers, and recent events placed low on the wall may pique a child's interest and provide opportunities to talk about the pictures or related topics.
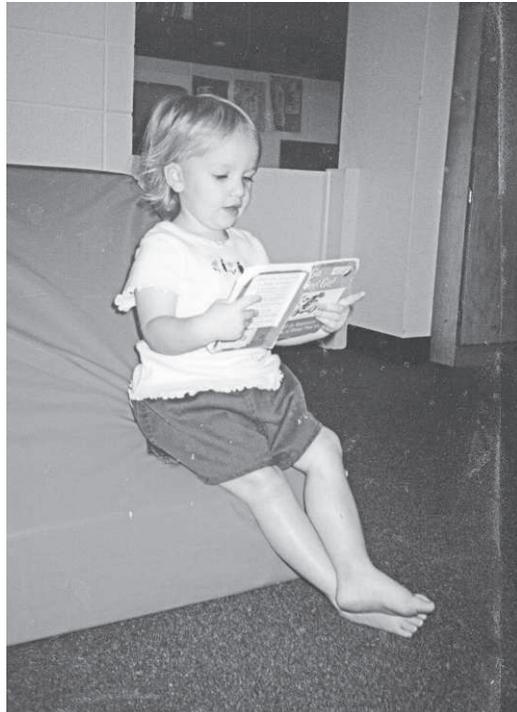
A quiet book-reading area can help promote book reading and book activities. Soft seating areas with multiple seats/cushions can facilitate group book-reading sessions, as well as prompt children to independently initiate book activities throughout the day. Books can be organized so they are easily accessible to multiple children, including infants. Learning how books "work" and having opportunities to interact with books, both independently and with caregivers, is an important precursor to early literacy activities. During shared book-reading activities, caregivers should not be concerned that children will not sit still or listen to the whole book. Follow children's leads, talk about pictured actions and characters, allow children to turn pages, and respond to their communication attempts.

Daily routines and transitions from one activity to another are another aspect of the environment. Posting and following a daily schedule can provide a general structure for the day and thus provide some predictability for children. For toddlers and older children, pictures may be used to depict daily activities so that children can anticipate and name upcoming activities. Talking about the day's schedule, in addition to providing an opportunity for communication, provides them with a reminder of what can be expected. Predictable routines for activities such as eating breakfast, cleaning up, diapering, or going outside also can include a clearly marked activity starter. One common example of this is use of a "cleanup" song. Furthermore, transitions between activities can be a challenging time for many children, so planning for transitions and avoiding children's waiting for others or directives can not only avoid problems but make these positive learning times. Finally, setting a regular time for book activities and story time, and, as much as possible, sticking to those times each day; providing additional opportunities for book activities throughout the day; and responding to children's initiations to look at books together or independently all help prepare the classroom or home environment with a supportive foundation for promoting communication. The remaining seven strategies can be used during interactions with infants and toddlers more easily once these environmental arrangements are in place.

2. Follow Child's Lead

This strategy involves two steps: noticing what a child is interested in, looking at, playing with, or talking about and then using that interest to provide opportunities for communication. Children are more likely to attend to activities or objects of their choosing. Following a child's lead increases the likelihood that he or she will be interested in communicating about an activity. Notice children's activities and current interests and then label, describe, and ask questions about that interest. Expand upon

or imitate what a child says about that interest. Ask questions and respond to what children say. As children's interests change, continue following their lead to further their engagement in the new activity.

Sometimes children are not engaged in an activity. In this situation, present a couple choices based on activities in which the child has shown interest in the past. Then, follow the child's lead in that activity or as he or she moves on to new interests. Offering choices not only gives children more options but also provides the opportunity to communicate their interests.

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Following a child's lead is important in that it is a foundation for the remaining six strategies. For other strategies to be effective, it is important to follow the child's lead to assure attention, engagement, and interest.

3. Comment and Label

This strategy involves naming or describing the actions in which a child is involved and the toys or materials with which a child is playing. Commenting and labeling can give children opportunities to hear how we talk about our surroundings and actions and teach correct labels for the actions or objects a child sees. When children hear more words, hear how they are used, and see how people communicate, they will be more likely to use gestures, vocalizations, and words to communicate their needs and wants. For example, care providers might name the child's toys, materials, or actions. For infants, one might say "Ball," whereas "You bounced that ball so high!" is more appropriate for toddlers. While changing diapers, you might name body parts, as well as describe what you are doing as you do it, for example: "I've got your feet; see your toes? I'm taking your diaper off, and here is your clean diaper." During book activities, talk about the pictures, name objects to which a child points, and describe characters' actions. Comment on the story as you read it, providing new information and responding to children's interests. Following children's leads while using these strategies ensures that children remain engaged and interested in the activity.

4. Imitate and Expand

Imitating is repeating a child's vocalizations or words back to the child, whereas *expanding* is repeating what a child has just said and adding new, more complex information. These strategies are important, because they show the child that he or she was heard and understood.

For example, if a child's words are unclear, imitating allows the child to know you heard them and possibly (if you inferred his/her intent) hear the correct form of pronunciation. Expanding can be an effective way to teach new information. With infants, imitate the child's vocalizations and often, infants will repeat that sound back to you again. Toddlers might use single words or approximations of words, such as "ba ba" for bottle. Repeat back the correct form of the word or expand on that vocalization by saying "Bottle, please." Expanding allows you to provide additional, more complex information that may introduce new words or concepts. A child might say "I clean" while wiping a table. An adult might say "Yes, you're cleaning the table with a towel."

5. Use Open-Ended Questions

This format for asking questions permits children to respond in multiple ways rather than simply answering yes or no or nodding their heads. These questions might begin with what, who, where, how, or why, providing opportunities for children to communicate and engage in explicit or lengthier conversations. As with the other strategies, it is important to follow children's leads. A child is more likely to respond to questions pertaining to the activity in which he or she is already involved than to questions unrelated to the child's current interests.

Ask questions related to what the child is playing or doing, what materials the child is using, or his or her daily routine. Questions that allow a child to direct play or activities may help to sustain that activity and promote communication. Asking questions such as "What should we build?" allows children to take the lead in your joint activities. While looking at familiar books, ask questions about the pictures, the characters, and their actions. Ask questions that allow for predictions as well, for example: "What do you think is going to happen next?" If a child does not or cannot answer your question, answer that question yourself and continue talking about the child's interests with comments and labels, imitating and expanding.

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6. Planned Delay/Fill in the Blank

This strategy refers to inserting a planned delay during a predictable routine that can promote a child's communication. This strategy is used during joint activities in which children know what to expect, and can "fill

in the blank" in a song or common phrase. Pausing after singing "Twinkle, twinkle, little…" and allowing the child to fill in "star" is one example of fill in the blank. This allows children to show you what they know and can say, and it emphasizes success while minimizing the need for corrections. This strategy also may be used while looking at a familiar book together. If the child knows the story well enough to fill in key words, an adult can initiate a phrase from the book, leave out a key word, and wait 3 to 5 seconds. If the child does not respond, fill in the blank yourself and continue with the activity. Interactions should remain positive, so it is not crucial that the child provide a specific response.

7. Give Positive Attention

Providing positive attention involves attending and responding to infants and toddlers when they attempt to vocalize or use gestures or words. Listening and responding to children's talk as well as providing positive comments, praise, or your attention lets children know they have been heard and encourages them to continue to make additional communication attempts in the future. Positive comments about children's communication, such as "Thanks for telling me what you want," create more opportunities for practice. These opportunities to provide positive attention and praise occur throughout each day. Prohibitions such as saying "No" or "Don't do that" inhibit children from attempting to communicate and thus limit opportunities for practicing language. Getting down at eye level and attending to a child who is reading a book aloud or a group of children who are talking about their activity reinforces those attempts at communication and encourages future attempts as well.

8. Provide Choices

Providing two or more options from which to choose can prompt children to communicate their needs and desires. By providing choices, children are provided with an opportunity to practice communication and language by talking about things of preference and possibly familiarity in their environment. There are multiple opportunities throughout each day to provide a choice of toys, materials, or activities. Two examples are, "Would you like to play with the cars or the animals?" or, "Would you like to read on the floor or on a chair?" For younger children, simply holding up two toys, for example, a block and a doll, can prompt a child to point to or reach for what he or she wants, thereby engaging the child's interest and allowing you an opportunity to follow his or her lead. Being presented with two visual choices, in addition to being presented with

the choice verbally, can help the child make that choice. Giving choices also can help to avoid challenging behavior. At cleanup time, ask "Would you like to pick up the cars or the blocks?" If children refuse to complete a task, ask "Would you like to do it yourself or would you like help?" In book activities, provide choices throughout the day by making a variety of books available to children. For example, allow children to choose the books that will be used during circle time, bedtime, or other routines and present two to three options instead of a whole bin or shelf full of books.

Planning to Use the Strategies

It is important to note that there is much flexibility in how each of these language-promoting strategies is used. It is not essential to use all of them in every interaction with every child. Caregivers may find that they use some strategies more than others, and this may depend on the activity or the child. The strategies are to be used flexibly to meet an individual child's needs. It is often through continued use that care providers learn how children respond to particular strategies. Some care providers just find themselves using some strategies more than others. *Follow child's lead, Comment and label*, and *Ask open-ended questions* are strategies likely to be used more frequently and in more varied situations than *Planned delay/Fill in the blank*. Thus, many care providers have found it helpful to learn all of the strategies so that they can use them all comfortably when appropriate. Some care providers have found it help-

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ful to post a list of these strategies (see Table 1) in a place they can refer to frequently, and they use them across the numerous opportunities that arise throughout the day to promote communication.

After reading about the language-promoting strategies, Tammy thought about which strategies she was most comfortable implementing in her classroom and recommending for her program. She decided to start by focusing on just a few of the strategies. She also decided to make some changes in the layout of her classroom using the environmental arrangements strategies, but she decided to make those changes slowly as she began to use the other strategies. To begin, she used a planning form to describe current communication patterns and preferred activities for two children in her program— Marcus and Briana. She then thought about how she could best apply some of these strategies in their preferred activities and listed her

ideas. She decided to post the strategies as a reminder of her plans. As she began implementing the strategies, she immediately noticed that the children's attempts to communicate were more frequent when she used the strategies. Furthermore, she felt that the strategies were easy to implement, and she quickly looked forward to trying out more of the strategies in other activities and with other children.

Supporting Implementation of the Strategies

It can be intimidating to try to begin using all of these strategies throughout each day. Many care providers report that it is helpful to choose two or three strategies described in the *Promoting Communication Manual* (Walker et al., 2004) to use during a few specific activities, such as mealtime or when playing with infants and toddlers, and then gradually add the remaining strategies as they become more comfortable and confident in their use. Table 2 provides an example of a form used to plan implementation of these strategies. This Promoting Communication Planning Form helps educators and parents identify current communication skills and preferred activities for each child with whom they are working. This information can then help the team determine the strategies it will begin using with each child, and the activities in which those strategies will be
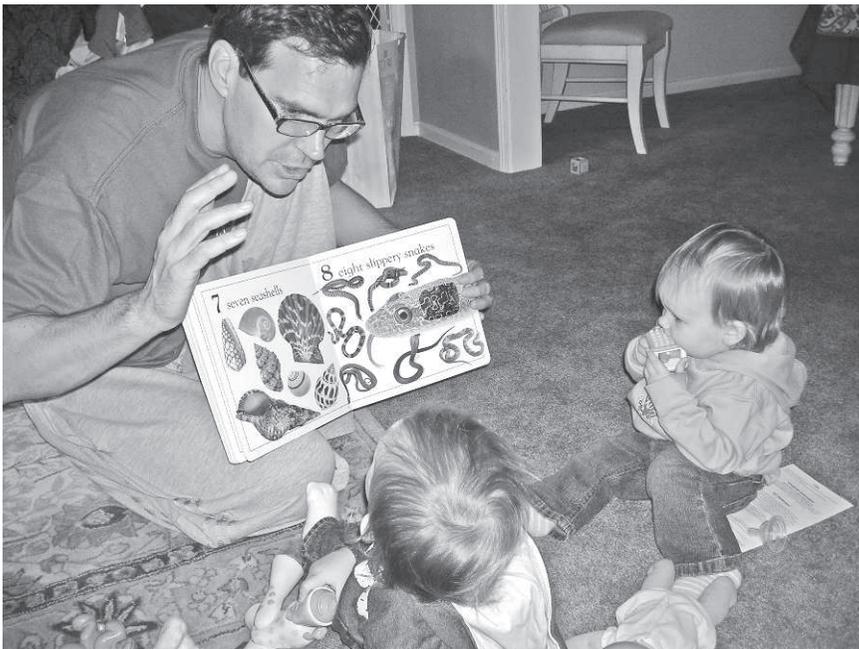
Table 2
Sample Promoting Communication Plan for Tammy's Panda Room

Child	Communication at this time	Preferred activities	Strategies I can use
Marcus	- Some pointing	- Animals	- Follow his lead in animal play
	- A few single-word approximations	- Picture books	-Label animals, describe animal activities
			- Books available throughout day
			- Follow his lead and comment and label pictures in books
			- Respond to and imitate his single words
Briana	- Many single words	- Dress up	- Ask open-ended questions about dress-up activity
	- A few two-word combinations	- Dress up	- Expand on her words by offering more information about dress-up activity
		- Lunch/ snack	- Label food choices, cup, and plate
			- Provide choices of where to sit and foods to eat

used. It also can be revised over time to address changes in children's communication and to incorporate additional strategies as appropriate.

Another tool that might be used by early educators, parents, and other caregivers to monitor their use of the communication strategies is the Communication Promotion Checklist (Figure 1). This fidelity checklist (Walker, Bigelow, Harjusola-Webb, Small, & Kirk, 2004) allows early childhood care and education providers or program directors, as well as parents, to rate how often they use each strategy throughout daily routines and activities. On this form, each strategy is rated as having been used "often," "sometimes," "rarely," or "not today" during activities such as play, toileting, circle time, and outdoor time. There is no specified length of

Figure 1
Early Educator, Program Director, and Parent Communication Promotion Checklist

observation for those using this form; it is designed to be very flexible in its use. Some care providers rate their use of strategies across the entire day, whereas others break their day down into specific activities. Some record use of strategies for a specific length of time, whereas others simply record for the length of the given activity. As long as each care provider or parent is using the form in a consistent manner, the information collected using this form can provide valuable feedback about reported use of the strategies over time. General guidelines are provided on the form based on the average frequency of implementation of each strategy observed being used in programs involved in the intervention. When completed, the checklist gives an estimate of how frequently the language-promoting strategies were used. In addition, the checklist may be used as a guide to assist early care and education providers and parents in their effort to promote children's communication across activities and to maximize the opportunities for child communication growth and development.

Monitoring the communication progress of infants and young children also may be accomplished through the use of a progress-monitoring tool such as the Early Communication Indicator, which is an Individual Growth and Development Indicator (IGDI) (e.g., Carta et al., 2002; Kirk, 2006; Walker, Carta, Greenwood, & Buzhardt, 2008). Through this approach, semistructured, play-based progress-monitoring assessments are conducted and graphical displays of child progress may be used to guide intervention

decision making and for progress monitoring. Further information about the IGDIs may be accessed on the Internet (http://www.igdi.ku.edu).

A systematic progress-monitoring approach is an important component of language intervention efforts targeting infants and toddlers, particularly those at risk for or with identified disabilities. When educators or other early childhood professionals monitor child progress in specific outcome areas, such as language, they increase their capacity to identify children in need of additional or different forms of intervention, and changes in instructional or intervention efforts may be made accordingly.

Using Strategies to Promote Communication in Your Program

The communication-promoting intervention strategies reviewed here are ones that may be incorporated easily into ongoing routines and activities in early childhood education programs and in homes and may be used in conjunction with other early childhood curricula and interventions, as well as with progress-monitoring tools. Using these naturalistic strategies increases the language-learning opportunities presented to infants and toddlers, and in doing so, helps to promote early communication and literacy development.

Tammy chose to use multiple means to monitor the children's language development as well as the teaching staff's actual implementation of the communication strategies. The information gathered from self-checks, progress monitoring, and child outcome measures provided useful information for Tammy when discussing her language curriculum with the center staff and parents. The center director, teachers, and parents were excited to see documentation of the children's progress, and Tammy was able to make suggestions for home visitors and parents regarding how to use the communication strategies at home as well. This new system of ongoing measurement of intervention fidelity and progress monitoring gave Tammy confidence that the strategies were being used consistently and verified that the children in her early childhood program were making measurable gains on their communication goals.

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