

Clinical Forum

Collaborative Consultation in Natural Environments: Strategies to Enhance Family-Centered Supports and Services

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Purpose: This article presents current information on recommended practices related to the delivery of early intervention (EI) supports and services to infants and toddlers with, or at risk for, communication deficits and their families.

Method: The focus is on presenting the changing paradigm for speech-language pathologists (SLPs) working in EI based on the best available research evidence and expert opinion. The article includes a brief review of the recommended and promising practices for early communication intervention and applies the content to the role of the SLP as a consultant to caregivers. It provides strategies for “how to” join into the everyday activities/routines and places with the caregiver and child in order to facilitate caregiver-implemented intervention that will enhance caregiver–child interactions and promote the child’s participation and learning. The importance of, and

strategies for, collaborative consultation with diverse caregivers within a family-centered approach is presented.

Implications: This article provides important and timely information for professionals and families related to family-centered EI practices, caregiver-implemented interventions, adult teaching strategies, and collaborative consultation with families of infants and toddlers with, or at risk for, communication deficits. SLPs can use the information presented to inform their practices when working with these young children and their families.

Key Words: family centered, natural environment, adult learning, collaborative consultation, caregiver-implemented intervention, early communication intervention

Collaborative communication interventions with caregivers, especially of very young children, have been evolving for several decades (Andrews & Andrews, 1990; Weiss, 1981). More recently, legislation and policy have increased the impetus for collaborative relationships with caregivers (Individuals with Disabilities Education Improvement Act [IDEA], 2004). Speech-language pathologists (SLPs) acknowledge the importance of caregiver involvement and have actively espoused the caregiver’s role in helping children learn and generalize skills to other

activities/routines, settings, and communication partners (Girolametto & Weitzman, 2006; Guimond, Wilcox, & Lamorey, 2008; Kashinath, Woods, & Goldstein, 2006). The primary focus of early intervention (EI) continues to be promoting children’s communication and participation. The primary mechanism for effecting change is through caregivers’ interactions with the children in their care.

Recognizing the centrality of caregiver–child interactions represents a paradigm shift from viewing the caregiver as a peripheral player in child-focused interventions to a service delivery model where the SLP focuses on strengthening caregiver–child communication exchanges. This caregiver-focused model requires the SLP to have two distinct skill sets. First, the SLP must be fluent in evidence-based interventions that help support child development in general, and specifically, communication appropriate for infants and toddlers. Second, the SLP must be proficient in using the consultative process in collaboration with the important communication partners in children’s lives—their caregivers. This article emphasizes information about the consultative process to enhance SLPs’ capacity to deliver family-centered services. We use the single term “caregivers” to include

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parents, other family members, and early care and education providers.

The American Speech-Language-Hearing Association (ASHA) Early Intervention Workgroup has issued statements in support of the collaborative consultation paradigm shift, concluding that the role of the SLP in EI is to work with and support the family members and caregivers with the belief that families, with the necessary supports and resources, can enhance their children's learning and development (2008). The role of the SLP in EI, then, is to support caregivers in becoming competent and confident in their capacity to help their children with disabilities develop communication. Supporting caregivers to embed evidence-based communication interventions within their daily routines/activities requires SLPs to integrate their knowledge and skill of child-focused intervention with adult education principles to guide caregivers in the content and process of caregiver-implemented intervention. The SLP assumes multiple roles in the relationship with infants and toddlers and their families in a collaborative model, such as team member, clinician, facilitator, coach, service coordinator, and consultant.

As in most multifaceted and dynamic relationships, the roles associated with the collaborative consultation approach in EI vary in their complexity and frequency of use, and some are more challenging to define than others. Some of these roles are more familiar to SLPs. Learning about the child's communication and generating ideas for how to support the child's communication development are both familiar activities. Yet learning about family goals and priorities, embedding communication goals into their daily routines, and helping caregivers learn to use communication strategies to support their child might be less familiar to SLPs. The latter role—helping caregivers learn to embed communication strategies into their daily routines—requires the SLP to adopt a role frequently described in the literature as a coaching approach (Hanft, Rush, & Shelden, 2004; Peterson, Luze, Eshbaugh, Jeon, & Kantz, 2007).

In coaching, the SLP interacts in a bidirectional and reciprocal manner with the family and assumes roles as both a teacher and a learner. Describing the SLP as a coach or teacher of caregivers on behalf of the child may seem inconsistent in an article on enhancing family-centered supports and services. However, the action verbs *coach* and *teach* are not used to promote the SLP as an expert in the consultative relationship, but rather to remind the SLP that the caregiving adults in the relationship are not likely to have expertise or experience in the communication interventions they need to support their child's learning. The words *coach* and *teach*, grounded in different theoretical philosophies, both describe one component of the collaborative consultation process, the piece that involves sharing information intentionally and systematically to promote learning and skill mastery. This occurs when one person shares information or skills with another person with the explicit intention that learning will occur. For their part, caregivers also act

as teachers or coaches in an interactive and participatory relationship (Lave & Wenger, 1991). They inform the SLP about the child's strengths, the nature of the child's daily routines, the child's interests, which strategies might and might not work, and whether the strategies fit the culture and values of the family. It is our belief that the manner or format for sharing the information is what makes the process family centered or not. The application of a situated learning model where teaching and learning occur through co-participation in meaningful and relevant activities is appropriate for EI because the SLP and caregiver contribute and gain knowledge and skills as partners to support the child's development (Dunst & Trivette, 2009a; Lave & Wenger, 1991).

Promoting adult learning becomes a critical skill set for the SLP because providing content essential to the child's development and intervention plan is an important role in EI (ASHA, 2008; Dunst & Trivette, 2009a). SLPs cannot support the caregiver-child relationship if they do not share relevant information with the adult caregiver in formats that promote the adult's learning within everyday routines and activities. As such, SLPs require knowledge about, and methods for, presentation of instructional strategies that are efficient and effective in teaching adults in order to skillfully integrate these strategies into family-centered practices. A bidirectional teaching and learning relationship between the SLP and caregiver is the basis for a truly individualized family-centered approach.

Family-Centered Supports and Services in Natural Environments

Defining family centered. Family-centered supports and services for infants/toddlers with disabilities and their families are both recommended and evidence-based practices in EI (ASHA, 2008; National Early Childhood Technical Assistance Center [NECTAC], 2008; Sandall, Hemmeter, Smith, & McLean, 2005). Definitions of family-centered practice include the familiar concepts of promoting child development and welfare within the family unit, establishing parent and professional partnerships, strengthening the capacity of caregivers to care for and protect their children, promoting caregivers' ability to manage their own lives, and supporting the essential role of the family as decision maker (Winton, Brotherson, & Summers, 2008). For practices to be family centered, they must be individualized, strength based, capacity building, and reflective of the culture and values of the family. Definitions may emphasize empowerment practices such as family participation in decision making, enhancement of problem-solving skills, and self-efficacy (Dunst, Trivette, & Deal, 1994).

Some family-centered definitions specify qualities and characteristics of EI providers. To provide family-centered services, SLPs must be trusting, honest, respectful, non-judgmental, flexible, and caring, as well as attentive listeners

and collaborative problem solvers (Dempsey & Keen, 2008; Trivette & Dunst, 2007). Other definitions describe how providers assist caregivers in ways that are important to them. These include (a) seeking out and respecting caregivers' views; (b) ensuring equal participation of family members in the decision-making process; (c) recognizing caregivers' rights to make decisions even when decisions are contrary to the professionals' views; and (d) affirming the role of culture, values, and family beliefs in their community (Bernheimer, 1999; Dunst, Trivette, & Hamby, 2007). Central to all definitions are respectful and reciprocal practices that promote competence and positive functioning by acknowledging the strengths of families and providing opportunities for their use of practices to enhance their children's development.

Current implementation of family-centered services.

Family-centered services are familiar to SLPs. However, studies consistently indicate that there is a gap between research and practice, resulting in the conclusion that implementing family-centered practices may be easier said than done (Guralnick, 2005). Investigators in early studies that evaluated implementation of family-centered services and supports were constrained by a lack of valid and reliable measures, adequacy of sample size and representation, and consistency of definitions (Crais, Roy, & Free, 2006; Dunst & Bruder, 2002). Noting these limitations, the investigators concluded that some family-centered practices were being implemented and that family satisfaction was fairly high. However, certain components of service delivery continued to be professional centered, coordination among professionals was limited, and families did not view themselves as the primary decision makers in the EI system.

A recent nationally representative sample of more than 3,300 families with children enrolled in Part C was completed through telephone interviews with family members about their initial experiences in EI (Bailey, Hebbeler, Scarborough, Spiker, & Mallik, 2004). With many limitations of earlier evaluations resolved, the results were generally positive, with similar areas of concern. Approximately one fifth of surveyed family members were not aware of their individualized family service plan (IFSP), which is a document intended to be developed jointly with the family and based on family priorities and concerns. Gaps between the concept of family-centeredness and practice were most evident by a lack of practices that placed family members, rather than professionals, in the role of decision makers. This finding was most pronounced during interactions with families from lower socioeconomic status or cultural diversity, suggesting the need to further examine practices within diverse populations. Underrepresented families, such as those living in poverty and minorities, were more likely to report that they wanted additional services, more involvement throughout the process, and easier access (e.g., transportation) to services. More than 20% of the total of

family members surveyed reported a desire for more involvement in decision making, especially in determining goals and services for their child, rather than reliance on professional expertise. Family members described positive involvement in decision making when the process was a joint activity between parents and professionals.

Provision of services within children's natural environments, as mandated in Part C of IDEA (2004), was intended to change both the location and the context for delivery of services and support. Initiatives in state policy promoted the relocation of SLPs and other team members from providing services in clinics and centers to joining children and caregivers in their homes, at community child care, and in early care and education programs. Simultaneous to the change in location for service delivery, the intervention focus moved from engaging children in planned educational and therapy activities to supporting caregivers to embed interventions within their typical activities/routines. This major shift in service delivery required SLPs and other early interventionists to examine what supports were necessary, how to define them while maintaining family-centered practice, and how to implement them within evidence-based child interventions. In addition to the shift to caregiver-implemented interventions, SLPs were expected to individualize the process for each caregiver by using items available within children's and caregivers' everyday activities/routines and play rather than bringing new items and therapy materials to support children's participation and learning within caregiver-identified activities/routines. To facilitate the practice change, professional development materials and activities were created, and suggestions and strategies for collaborating with caregivers in their natural environments were offered.

Unfortunately, recent studies have indicated that efforts by EI providers to engage family members or other caregivers to promote children's communication skills within activities/routines have fallen short. Recent research suggests that, despite policy, programmatic expectations, and professional development, a substantial gap exists between expected (recommended) and actual practices in Part C service delivery, particularly home-visiting practices, and that home visits tend to be predominantly child focused rather than supporting interaction between the parent and child (Campbell & Sawyer, 2007; Hebbeler, Spiker, Morrison, & Mallik, 2008; Peterson et al., 2007; Wilcox, Guimond, & Kim, 2010). Using a self-report survey of a national sample of EI providers, Hebbeler et al. (2008) reported that 44% of EI home-based services were described by respondents as focused primarily on the child. This figure underrepresents data reported in other research studies where direct observations of home visits were conducted. In a study of 15 EI providers, Peterson et al. (2007) reported that 51% of home visit time was spent in direct instruction with the child, and less than 1% of the time was used to coach the caregiver. Campbell and Sawyer (2007) found that 70% of videotaped

home visit sessions were traditional or child focused. Providers led 82% of the sessions, and parents assumed an observer role in 63% of the videotapes they coded. Wilcox et al. (2010) analyzed strategies used by EI providers during home visits and found that the EI providers spent the majority of their time in a triadic context that included the caregiver, child, and provider. However, the caregiver assumed a passive role during most of the home visits and merely watched the EI provider work with the child. In nearly all of these triadic interactions, the EI providers not only worked exclusively with the children, but they also rarely acknowledged or spoke with the caregivers. Given this emerging evidence base, it is apparent that many EI providers are not engaging in collaborative consultation practices designed to foster parent competence and enhance the parent-child relationship. This, too, seems to be easier said than done.

Embedded intervention in family-identified contexts.

The identification and use of children's and families' familiar and spontaneous activities/routines and events as contexts for intervention promote individualization, respect for family choice, and family decision making as essential components of family-centered practice (Wilcox & Woods, this issue). Daily activities/routines like washing hands, folding clothes, reading the mail, and playing with favorite toys contain naturally occurring communication opportunities that could be identified as preferred times for embedding intervention by many families. Daily activities/routines and events offer children meaningful practice and enable caregivers to interact with the children and support their success. However, not everything in life is planned. Spontaneous events also provide opportunities for communication and interaction. A knock on the door, the kitten jumping in her box, the sounds of the garbage truck, or a pretty bird out the window all offer occasions for children to comment, share attention, and make requests to their caregiver.

SLPs serve a critical role in helping caregivers understand that both familiar and spontaneous occurrences are teachable moments that can be maximized as learning contexts. Young children learn best while participating in an activity, with the caregiver mediating the environment and interactions (Hancock & Kaiser, 2006; Wetherby & Woods, 2006). When caregivers understand how young children learn to communicate, they can make decisions about when and where to practice throughout the day at times they are able to direct their attention to children to support learning. Focusing on outcomes that expand children's participation within their everyday environments is both efficient and effective for children and their caregivers.

The development of an intervention plan provides many opportunities to expand family-centered practices by increasing individualization and decision making for caregivers. Although it may seem obvious that caregivers must be decision makers in the intervention plans because they are implementing them, research indicates that many intervention plans are professionally directed (Bailey et al., 2004).

When the SLP engages in problem solving with caregivers to determine the logistics around who will be involved, when, with which materials, and how often, they increase the probability that the plans will occur because they reflect caregivers' perspectives. Another consideration for the SLP and caregiver in the development of the intervention plan is adequacy of opportunity for practice and feedback. Caregivers need to appreciate the importance of providing sufficient practice opportunities to promote children's learning. For most children eligible for Part C, occasional or inconsistent practice will not result in optimal progress. For the practice to be meaningful, caregivers must be able to focus their attention on the child and respond.

The planning process should include discussions about what is most likely to occur between the caregiver and child, not just what could happen. For the intervention to be effective, it must occur when children are able to actively participate in a targeted activity/routine (Wetherby & Woods, 2006). Children's ability to participate in a targeted activity/routine is central to the basic tenet of embedded intervention because (a) children must be able to participate to learn functional and meaningful skills; (b) learning increases participation in daily caregiving, play, and social interactions; and (c) caregivers mediate the teaching and learning process for the child as it occurs (Wilcox & Woods, 2011).

Evidence-Based Intervention Strategies for Early Communicators

SLPs have a variety of evidence-based methods and strategies they can use to facilitate caregiver and child communication in home and community settings. Development of evidenced-based intervention strategies dispersed and embedded in activities/routines throughout the day, rather than in tightly structured and executed activities, have increased over the past 15 years concurrent with the increased interest in serving young children in natural environments. Much of the empirical data collected to date has been on preschoolers rather than infants and toddlers, and the quality and preponderance of the evidence are limited for some communication delays and disorder types (ASHA, 2008). The reader is referred to the ASHA EI documents (2008) for a review of the various specific interventions. The following sections include a brief description of naturalistic interventions and illustrate how they can be used within a family-centered approach, with a focus on enhancing or enabling children's participation in activities/routines.

The emphasis on participation in daily activities/routines where communication is immediately functional and meaningful for the child requires the use of flexible and adaptable strategies designed to meet the situation as it occurs. Naturalistic intervention strategies that promote initiation and generalization of early communication targets, that are adaptable for a variety of activities/routines and events, and that have been implemented by caregivers with fidelity

include (a) arranging the environment to provide opportunities for communicating with preferred toys or everyday objects, (b) encouraging child initiations and following the child's attentional focus and interest, (c) interspersing preferred and nonpreferred activities/routines to promote requests, (d) offering choices and encouraging choice making, (e) using natural reinforcers, (f) using an expectant wait or time delay, (g) using contingent imitation, and (h) structuring predictability and turn taking within the activity (Hancock & Kaiser, 2006). With planning and attention to the predictability of the activity/routine, these intervention strategies can be embedded to provide multiple opportunities to practice without interfering with the completion or enjoyment of the activity/routine. When caregivers are encouraged to participate in the decision-making process, they expand their capacity to generalize the strategy to other activities/routines and settings (Kashinath et al., 2006; Wetherby & Woods, 2006). Further, practice opportunities can be increased for the child when caregivers apply the intervention strategies to different outcomes within a variety of activities/routines dispersed throughout the day.

Mapping the intervention onto a child's interests is another general strategy that builds on a family's strengths and available resources. Interest-based activities and routines increase the child's motivation to participate and the number of opportunities for practice. They also enhance the role of family members as decision maker. In a research synthesis, Raab and Dunst (2007) found that in the largest number of cases (86%), interest-based involvement in child learning was associated with more positive and less negative child behavior. Further, caregiver-identified child interests were associated with the largest child benefits (Dunst, Hamby, Trivette, Raab, & Bruder, 2000; Raab & Dunst, 2007). These results support caregivers' input into the selection of the activities and reduction in the development of a priori interventions that are not based on the child's preferred activities/routines and materials.

Sensitivity, synchronicity, and mutuality are elements of caregiver responsiveness that increase the likelihood of positive child outcomes as identified in a recent research synthesis (Dunst & Trivette, 2009b). Sensitivity, a caregiver's ability to read and respond to the child's behaviors accurately and promptly, supports a child's initiation of communication and encourages continued interaction through reinforcement of the child's behavior and the success of the interaction.

Crucial to successful intervention that is family centered and caregiver implemented is the caregiver's capacity to make decisions on which outcomes, what activities/routines, and when, where, and how to embed intervention strategies that increase participation when the SLP is not present. As noted previously, evidence supports that SLPs have shown their capacity to share information, build on family strengths, and engage in meaningful and respectful relationship with families (Crais et al., 2006), yet there is much to be accomplished in the transfer of information and skills

to the caregiver that supports intervention implementation throughout the day and caregiver leadership in the decision-making process.

Consultation and Coaching in Natural Environments

Emerging practices in consultation and coaching.

Supporting caregivers to facilitate their children's learning is neither simple nor direct; however, an SLP seeking information on approaches and strategies to use with caregivers will find an increasing library of professional development resources for EI providers. Modeling, reflective listening, questioning, performance feedback, prompting, and problem solving are specific strategies described in an emerging literature base. These various strategies are often used in service delivery approaches described as collaborative consultation (Buysee & Wesley, 2004), coaching (Hanft et al., 2004; Peterson et al., 2007), or participation based (Campbell & Sawyer, 2007). Although the approaches have distinct differences, they also have many similarities that support increased performance and outcomes for caregivers.

The consultation model is characterized by a triadic relationship among the EI provider as consultant, the caregiver, and the child. Consultation is a voluntary and reciprocal collaboration, with each participant contributing valued knowledge and experiences to achieve mutually defined goals (Buysse & Wesley, 2004). The goals of EI consultation are bidirectional, and each step builds on the previous to inform the latter. Joint planning, systematic teaching with feedback, and problem solving are essential features of consultation. General goals in EI consultation are to (a) scaffold learning for the caregiver that supports child development and interactions, and (b) provide resources to handle similar challenges in the future.

In contrast to the sequential consultation approach, the coaching process is viewed as circular (Hanft et al., 2004). In coaching, the SLP and caregiver identify goals and include learner observation of the clinician (modeling) and learner opportunities to practice the new skill while receiving feedback (scaffolding) in the process. Reflection and evaluation are important steps that encourage the parent or caregiver to think critically about his or her use of strategies. They also provide the caregiver with an opportunity to engage in problem solving with the clinician (Hanft et al., 2004).

Early interventionists applying principles reflected in either consultation or coaching within natural environments are expected to facilitate caregiver engagement, enhance caregiver confidence and competence, and teach caregivers to support their child's learning within everyday activities/routines (Dunst et al., 2001; NECTAC, 2008). In many states' EI program descriptions, both coaching and consultation practices are identified. Consultation is described as the service delivery format and is listed on the IFSP or as a category for the payment of service. Coaching is identified

as the process for interaction between the provider and the caregiver. Although the service delivery approach provides the opportunity for the SLP to engage the caregiver in meaningful decision making about the implementation of intervention, both coaching and consultation can become an expert rather than collaborative model if the SLP does not actively solicit caregiver participation and leadership (Buysee & Wesley 2004; Campbell & Sawyer, 2007; Hanft et al., 2004). Again, the emphasis is on the effective use of adult learning strategies to support caregiver competence and confidence in the partnership.

Evidence from multiple and varied sources reflects the need for EI providers to extend their knowledge and skills to include strategies to engage with caregivers in the essence of family-centered practice and to support the capacity of the caregiver to confidently and competently interact with the child in developmentally responsive ways while also expanding experiences for the child (Guralnick, 2005). Participatory help-giving practices, which are those promoting caregiver decision making and action, require SLPs to go beyond collaborative and relationship-based strategies that families and research identify as satisfying but insufficient for development of competence (Dunst, 2007). Equipping caregivers to support children in natural environments when SLPs are not present necessitates a change in procedures when SLPs are present.

Adult learning and family-centered consultation. Evidence and clinical practice support the effectiveness of collaborating and consulting with caregivers as a way to enhance child outcomes and strengthen relationships with caregivers. Unfortunately, there is a paucity of research concerning *how* SLPs can best support learning for adult family members and other caregivers. In other words, there are a variety of evidence-based intervention practices for caregivers to use with children, but less is known about how to teach or promote implementation by caregivers (Fixsen, Naom, Blasé, Friedman, & Wallace, 2005).

One important resource available to SLPs seeking to enhance their skills in collaborating with caregivers is the adult learning theoretical base. Adult learning refers to the complex process of change in behavior, knowledge, skills, and attitudes in adults. It includes acquisition and mastery, application of the meaning to one's own experience, and the intentional use or variation of ideas to novel or relevant problems (Knowles, Holton, & Swanson, 2005). The study of adult learning includes a multitude of theories, situations, principles, and strategies that have relevance to EI policy and practice, especially to the providers serving as consultants to caregivers. It is beyond the scope of the present article to address the diversity and application of the various adult learning theories to EI; rather, the focus will center on the most commonly agreed-on adult learning principles and the research that supports their use.

Research documenting how adults learn has focused on preservice or in-service college students or professionals

and has primarily addressed which instructional strategies (e.g., didactic teaching, case-based methods, video application) are most effective. Much less attention has focused on systematically evaluating adult learning and instructional strategies outside of the classroom and with a diverse range of caregivers. The research base is still emerging, but the theoretical perspectives are numerous and rich. The concept of helping caregivers develop new skills and gain access to new information and resources is consistent with sociocultural and ecocultural theories, behavioral models, cognitive apprenticeship, and situated learning approaches (Bronfenbrenner, 1992; Lave & Wenger, 1991; Rogoff, 1990). Each of these models (a) holds that learning needs and priorities be evaluated with regard to contexts that are important to the learner, (b) emphasizes that coaching and practice take place in the context in which they are going to be used, and (c) focuses on observable outcomes of functional relevance.

In the National Academies of Science review, *How People Learn: Bridging Research and Practice*, Donovan, Bransford, and Pellegrino (1999) summarized three key elements in the "science of learning" that have direct applicability to consultation with caregivers in EI. First, new material is more easily learned by adults when it has direct relevance to the learner's knowledge and interests. Second, for mastery to occur, application in multiple contexts must be provided, with opportunities for evaluation and feedback. Finally, self-reflection and goal setting help adult learners apply their knowledge and skills to novel situations. Dunst and Trivette (2009b) incorporated these key elements and findings from a practice synthesis when describing the participatory adult learning strategy (PALS) for professional development.

PALS describes a model of adult learning that has been informed by findings from several recent research syntheses and meta-analyses of the adult learning literature (Trivette & Dunst, 2007; Trivette, Dunst, Hamby, & O'Herin, 2009). Four major components—introduction, application, informed understanding, and repetition—guide implementation of the approach. The authors emphasize the importance of bidirectionality in the learning process, with the instructor soliciting ongoing input from the learner to enhance mastery and internalization of outcomes. The participatory nature of this strategy makes it unique among the adult learning literature and applicable to the challenges facing EI providers. Including caregivers' active participation will increase opportunities for them to practice new strategies and also offer a new role in decision making. Repetition provides a foundation for deeper understanding that will support both capacity and confidence building for caregivers.

Although the results of EI consultation based on adult learning principles are just emerging, there is reason to be hopeful. An additional adult learning approach specific to EI emphasizing the situational learning approach from Lave and Wenger (1991) was systematically applied as a professional development and caregiver consultation model

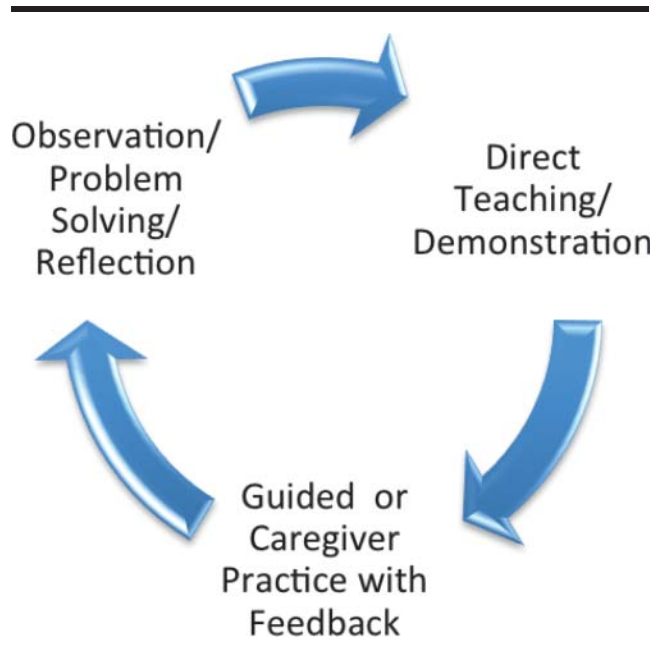
within an EI program and resulted in a positive change in providers' utilization of consultative practices (Salisbury, Woods, & Copeland, 2010). It is currently being replicated with teams statewide in North Dakota (Woods & Marturana, 2010). In this approach, EI providers implement a systematic approach to the home visit that promotes bidirectional teaching and learning within the context of the daily routines and activities identified by the caregivers as appropriate for intervention. Caregivers are supported in their learning with demonstration, practice and feedback, problem solving, and reflection by the EI provider.

Building on the best of the resources and research available, SLPs should incorporate adult learning principles in their consultation with caregivers. We know that adults learn best with clear, relevant, and jointly established expectations. Caregivers should understand that SLPs are not coming to their home or center to work directly with the child, but rather that services are intended to support the caregiver and child interaction within the context of activities/routines that have been identified as priorities by the caregiver. A mismatch in expectations can reduce the caregiver's attention to the goal-setting process, add frustration for both parties, and delay the initiation of quality intervention for the child. A thorough exploration of what the caregiver believes is important to learn will enhance the development of outcomes for consultation. Caregivers have experiences and expectations that must be woven into the consultation process if they are going to be able to integrate the content into their world view and parenting interactions. Again, supporting the caregiver in decision making is essential. Agreeing on the participation priorities for the caregiver and child promotes collaboration. (Wilcox & Woods, this issue).

Applying Adult Learning Principles in EI Practice

Although the concepts introduced in the consultative and coaching models are very useful to providers, SLPs may find more detailed specifics about how to engage caregivers in a way that helps them learn new information and skills that in turn helps them support their children's development. A learning cycle, illustrated in Figure 1, is presented as a way to conceptualize the action component of the consultation plan that has been jointly developed by the SLP and the caregiver. As noted earlier, collaborative consultation is a multicomponent process. It requires the caregiver and SLP to work together to identify priorities and strategies that fit the child's and family's needs and routines in which to embed intervention. It also requires the caregiver and SLP to communicate openly to make sure the values of the family are well represented. Without these components, the consultative process is neither family centered nor collaborative. Yet, the sharing of specific information is critically important, too. This component occurs when the caregiver and SLP have jointly identified goals and strategies and are

Figure 1. A learning cycle for parent-implemented embedded intervention. This figure demonstrates the process for using coaching strategies in everyday routines.



setting out to use them in everyday routines. If the SLP is to help the caregiver learn this information, he or she must be able to conceptualize ways to share information and skills with another adult. The use of an organized teaching and learning cycle has been shown to be as effective in coaching approaches in education (Knight, 2007). In like manner, it can be used by the SLP in home-based and child care settings to systematically share information and strategies with caregivers while also gathering information from the caregiver and through observation of their interactions. The use of a cycle promotes flexibility to incorporate a variety of learning preferences and scaffolds identified for specific caregivers, at the same time offering a consistent and predictable framework to support the bidirectional teaching and learning process. It also encourages the SLP to systematically increase the caregiver's active implementation and evaluation as competence is evidenced in the routine.

Getting started: Observation, problem solving, and reflection. Observing the caregiver and child in the interaction, routine, or activity is an important component of the teaching and learning process and is often a good place to start. By watching what the caregiver is doing with the child in the interaction, the SLP learns what is working well and how to support additional participation by the child. It facilitates starting where the caregiver and child are and building on their current status rather than inadvertently introducing a common intervention strategy such as modeling that may already be in place. Observation also has benefits for the caregiver's role in the partnership: It sets the stage for the caregiver as the child's primary communication

partner and actively engages the caregiver immediately in the routine, thus inhibiting any reluctance to participate. The initial observation also provides an immediate update on the child's current participation in the routine and an accurate target for the SLP and caregiver to discuss as they problem solve what, where, and how to start the intervention.

Joining in with the caregiver: Direct teaching and demonstration. Direct or explicit teaching refers to specific, outcome-directed instruction by a competent teacher on a concept or skill to increase independent performance of the learner. Traditionally, an instructional sequence begins with direct teaching and/or demonstration. However, in EI, direct teaching or demonstration is the result of the caregiver's and SLP's discussion and determination of the most appropriate plan of action for the identified routine. After an initial observation, the SLP joins into the routine or activity with the caregiver as an active participant to explain and demonstrate what to do, why it is important, and how it can be done. For adult learners, understanding why strategies or information is important, and direct teaching and demonstration can help achieve this goal. SLPs might use direct teaching to introduce a strategy to support child communication, or they may share specific information with the caregiver about child communication development and why a goal or target is important.

When teaching a new intervention strategy, the SLP can explain the procedure, how it will support the child's participation during activities/routines, and how and when the strategy can be used. Direct teaching as a consultation strategy is not *un*family centered or inappropriate for EI when it is offered within a responsive and respectful relationship with the caregiver. Research has shown explicit teaching to be an effective and efficient approach for the acquisition of knowledge, but one that is not occurring with any regularity between the EI provider and the caregiver in current EI sessions (as noted in the previously mentioned studies; e.g., Campbell & Sawyer, 2007; Peterson et al., 2007; Wilcox et al., 2010). After introducing a new strategy, the SLP should demonstrate how to use it, explaining what is happening to the caregiver and offering the caregiver opportunities for questions. Currently, SLPs model the use of strategies with caregivers but are less likely to complete the step of explaining what they are doing as they do it or seeking clarification. The lack of caregiver participation decreases the caregiver's capacity to know that the SLP is using a strategy deliberately. In EI, the direct teaching/demonstrating step of the learning cycle is not formal (e.g., a lecture or micro-teaching); rather, it is friendly and is focused on increasing the caregiver's competence and confidence of a specific intervention strategy or its use within a routine.

Direct teaching and demonstration take place within the context of the activity/routine, are generally brief, and are clearly linked to the consultation plan. They may also be initiated within a broader context of a discussion about the child's progress or when information shared by the SLP

results in the caregiver's decision to learn another strategy. This step may involve instructional supports such as written or illustrated handouts describing the steps used in the strategy, role playing between the SLP and caregiver, and hands-on or video demonstrations if these are useful to the caregiver. Direct teaching as described in these examples should not be construed as an expert model. The SLP is sharing the knowledge and skills he or she brings to the collaborative relationship. Further, the SLP should be sharing information that the caregiver has expressed an interest in learning. In this case, the SLP is presenting information that matches the caregiver's needs and priorities.

Direct teaching should not be confused with the distribution of homework accompanied by verbal directions or a list of ideas that the caregiver can complete offered at the end of a session. Direct teaching and demonstration are integrated into the routine and involve the active participation of caregivers by including their choices for contexts, materials, types of demonstration, and the discussion of their knowledge and experience with the strategy. As a step of the cycle, the instruction should be clear, concise, and straightforward because it often sets the stage for the next phase, implementation.

Moving forward: Practice and feedback. Practice is not a new construct. Most caregivers and children benefit from practicing a task. In family-centered consultation, SLPs support opportunities for caregivers and their children to engage in practice while they guide, observe, and offer feedback in the form of suggestions, prompts, reflective questions, or encouragement. Practice can increase mastery by the caregiver. Recall that offering caregivers opportunities to practice was a critical element identified in meta-analytical studies on adult learning. Approaches that offered adults opportunities to practice a new skill yielded better results than those that did not (Dunst & Trivette, 2009a). In both child and adult learning theory, the larger the dose of learning opportunities distributed over time, the more effective the intervention is likely to be. SLPs also need opportunities to practice with caregiver-child dyads in order to gain skills as consultants.

The timing and intensity of the strategy used, such as performance feedback or personal reflection, are important considerations. As a caregiver and child interact in an activity/routine, the SLP guides the caregiver on use of the strategy. The SLP gives the caregiver suggestions for what to continue doing and what to consider altering based on feedback provided by the caregiver. The SLP should also give feedback about how the child responded to the caregiver's use of the strategy. The SLP may join in the routine momentarily, take turns with the caregiver and child, and demonstrate or try something different within the activity/routine with the caregiver observing. The caregiver may repeat the routine/activity with the child as the SLP provides additional suggestions as needed on how and when to implement the strategy.

Closing the cycle: Observation, problem solving, and reflection. The cycle may continue with the SLP observing the caregiver–child interaction and providing only as much support as needed for success, or it may come to a natural close. Observation of the dyad provides additional information for the SLP on the quality of the match between the strategies, the child’s participation, and the level of support provided by the caregiver in the routine. It also promotes confidence in caregivers as they engage successfully with the child. As the interaction closes, the caregiver can be actively engaged with the SLP in evaluating how well the participation or intervention strategies appeared to support the child. Dunst and Trivette (2009a) highlighted the importance of the problem-solving and planning phase for generalization of strategy use as well as autonomy in strategy use. Helping adults analyze their own use of the strategy, including what went well and what did not, may help increase the caregiver’s ability to use the strategy in interactions or routines. With the end goal being for the caregiver to implement the intervention with the child throughout the day, then the transfer of knowledge and skills must be systematically undertaken by the SLP. Observation, discussion, and problem solving serve to develop the caregiver’s competence and ownership of the interaction and are essential to facilitate self-assessment and reflection.

SLPs can build problem-solving and reflective conversations by asking the caregiver’s opinion about the child’s use of communication skills to participate in the activity/routine. What worked well for promoting the child’s participation in the activity/routine? What didn’t? How will use of this strategy make a difference with other interactive partners? Can communication skills within the activity/routine be embedded in other activities/routines to enhance participation? Can the child intervention strategies used in the activity/routine be used in other activities/routines? What would happen if another step were added to the activity/routine? How might the child respond? These questions might be useful kindling to begin a reflective conversation with the caregiver, increasing his or her fluency with the strategies he or she has learned. Problem solving and reflection can be used to identify ideas about what to do if the strategy does not work, as well as ways to increase complexity when the child has mastered the target skill.

Flexibility in the cycle is important. As mentioned previously, each adult learner is different, and the process must be individualized for each adult’s learning preferences and goals. For example, if the caregiver is clear on the strategy to use and why it is important, then moving straight into joint interaction, practice, and feedback is warranted. Observation may not be needed if the SLP is initiating a new routine or goal at the request of the caregiver. The caregiver may be ready for a demonstration or guided practice with feedback. Reflecting on the process throughout the cycle can also be effective with caregivers who are comfortable engaging with their child and the SLP simultaneously.

However, not all adult learners (including the SLP) are multi-taskers. They may prefer trying something out and then discussing what worked and what did not. Some children may also perform poorly when they are interrupted by adult talk. The SLP and caregiver may need to try several different strategies to gather and provide feedback during the routines or interactions until they find what best matches the needs and preferences of the child and caregiver. The cycle is also dynamic. Additional demonstrations may be useful during the practice component if the caregiver is unsure or if the child changes response patterns. Backing up and moving forward is a judgment made in the moment by the SLP and caregiver as they observe each other and problem solve as partners. The use of a cycle provides a framework for the teaching and learning partnership that should be adapted as appropriate for the specific goals, routines, and situations.

Individualizing the Process for Adult Learners

Scaffolding is a generic term that refers to the strategies used to help learners, both adults and children, to extend their reach within their current knowledge and skill use. The intent of scaffolding is to assist the learner when needed to reduce frustration, mark discrepancies, and provide input that matches the learners’ preferences (Bonk & Kim, 1998). Scaffolding enables the learner to operate independently and at higher levels of performance. Types of scaffolding depend on the task and the abilities and preferences of the learner, but instruction that is scaffolded for the adult within family-centered practice should be relevant to the concerns identified by the family, promote a feeling of ownership, be individualized for the child and parent, promote collaboration, and foster internalization. There are many scaffolding, shaping, and reflective strategies available in the literature, with varying amounts of empirical and anecdotal evidence that support their use. Several strategies appropriate for EI are described in Table 1. This is not intended to be an exhaustive list, but rather a survey of applications that can be applied within the learning cycle.

The list of scaffolding strategies provides the SLP with variations for coaching interactions, fosters the SLP’s ability to match the adult learner’s preferences, and promotes generalization for the caregiver. Varying strategies can be helpful to both SLPs and caregivers as a novel event within a predictable activity/routine increases attention without unduly compromising the cognitive requirements for either. When identifying and using a scaffolding strategy with caregivers, SLPs should remember two important principles from adult learning. First, caregivers should know *why* a new skill is important before they attempt to learn it because they care about the relevance of the material and the impact on their lives. They are not likely to learn the skill in the first trial, so additional opportunities, possibly using a different strategy or in a different context, can increase understanding. Deeper understanding of the value or *why* the skill is

Table 1 (p. 1 of 3). Family-centered scaffolding strategies and examples for caregivers in early intervention (<http://tactics.fsu.edu>; Campbell & Sawyer, 2007; Dunst & Trivette, 2009a; Fenichel, 1991; Hanft, Rush, & Shelden, 2004; Woods & Lindeman, 2008).

<i>Strategy</i>	<i>Description</i>	<i>Example</i>
Expanding on the caregiver's idea	Whenever a strategy suggested or used by the caregiver can be incorporated further, the caregiver's competence and confidence are increased and communication opportunities are expanded. It should be the decision of the caregivers how far to stretch any good idea. The caregivers will have their off-limits areas for personal, safety, or time reasons, and it is important to respect their decisions. It is equally important to provide opportunities to make the decision. The speech-language pathologist (SLP) should not assume that the caregiver is overwhelmed but rather put some ideas out for the caregiver to consider and decide.	While returning the remote control to the top of the television out of Bailey's reach, mom mentions that she tried arranging the toy closet in Bailey's bedroom with her favorite toys on a shelf where Bailey could see them but would have to ask by vocalizing and reaching. The SLP affirms it is a great idea and asks if there are any other safe but interesting locations where the same strategy could be used.
Color commentary	Just like the sideline announcer during football games, color commentary explanations serve to help explain the context and the techniques used. The SLP talks about what he or she sees happening or thinks could happen during practice with the child and caregiver. This strategy communicates to the caregiver that the SLP and caregiver are working together as a team, and that it matters for the caregiver to notice and understand what is happening. It requires the SLP to have a clear idea of what he or she is doing and to be able to articulate the intended purpose and hoped-for result. Color commentary builds on the child's interests and encourages the caregiver to think about "what's next" or "what else the child could be learning." It also is a way of engaging caregivers or keeping their interest by drawing them into the activity and increasing their active role, which may be especially important early in the intervention process. It is helpful when a caregiver is learning about his or her role, or when a strategy is being introduced.	"Dante seems to really like this ball when we roll it back and forth. See his smile and the way he leans forward into the action. Let's move it over here, just out of his reach, to see if he will reach to get it, or better yet, if he will look at you and say ball to request you to get it for him."
Reflective suggestion	In this example, the SLP asks the mother to share what she has already tried before making any recommendations. She is doing it in such a way that (a) she provides an explanation for her recommendation, (b) she links it with a goal that is important to the caregiver— <i>independence</i> , and (c) she leaves room for the caregiver to be part of the problem-solving process by figuring out what kind of support to use. Scaffolding caregivers toward decision making is an important and ongoing strategy for capacity building.	"I've been watching you feed Bailey and noticed that she slumps a little in her high chair. Have you noticed this? Have you tried any seating support so she doesn't have to work so hard to sit up? This would allow her hands free to start feeding herself independently. And it should make it easier for her to see you as you talk to her."
Linking information sharing to family priorities	SLPs have valuable information to offer caregivers. However, most adults will acknowledge that it can be hard to absorb and remember all information given to us. For this reason, it is important to be thoughtful about how to proceed. First, choose a relevant topic. Caregivers will respond to information that has immediate application and relates to their priorities. Second, look for an appropriate moment. If a mother is trying to calm her crying baby, she will probably not be able to attend to what the SLP shares. If it is after the session is concluded, the caregiver is likely to be processing what has just happened and may not be able to shift into new information. Third, consider what information format best meets the adult's learning style. Is it best shared in a conversation, with visual or written supports, demonstrated in a video, or during a joint action routine? Finally, be prepared to offer the same information more than once using different formats. Few adults are one-time learners. And if the caregiver indicates that it is not a good time to add more information, respect the decision.	"I know you would like Dante to be using more words. Sometimes we don't really think about it, but children need to learn to understand what we say, to understand what words mean before they use them. One of the best ways we can help them use more words is to help them learn what they mean. Is this a good time to talk about some ideas to increase comprehension?"

(table continues)

Table 1 (p. 2 of 3). Family-centered scaffolding strategies and examples for caregivers in early intervention (<http://tactics.fsu.edu>; Campbell & Sawyer, 2007; Dunst & Trivette, 2009a; Fenichel, 1991; Hanft, Rush, & Shelden, 2004; Woods & Lindeman, 2008).

<i>Strategy</i>	<i>Description</i>	<i>Example</i>
Naming the dilemma	Sometimes an important first step is to talk with a caregiver, listen to his or her concerns, and help identify what the dilemma actually is. Then the SLP will be in a better position to explore possible alternatives. Even without being able to immediately solve the problem, the caregiver will feel that progress has been made toward an eventual solution. This sets up a collaborative problem-solving exchange where alternatives can be explored.	“As I listen to you talk about opportunities for Bailey to be with other children her age, I think I hear you narrowing it down to a few options. One is to enroll her in the church preschool, which is a 3-day program and where she will have a chance to learn from other children her age. There are no special services available in this class, but it is close and you know the teachers from the church. On the other hand, you can refer Bailey to the special education preschool, where she will get more intensive and individual attention from the teacher and specialists. Then of course, you can continue with your less formal play dates in the park. Would you like to talk about the pros and cons of each of these and then determine what additional information is needed for you to share with your family in the decision-making process?”
Hypothesizing and experimenting	This is an indirect way of offering a suggestion, giving the caregiver the choice of trying it or not, and asking for his or her input. It also communicates that the SLP and caregiver are working together to try to come up with the best solution, and that no one has the perfect answer. The best answer will be the one the caregiver believes will work for him or her. It is important to be authentic in using this technique: Caregivers will sense immediately if the SLP is simply masking a directive. The question has to be genuine. The SLP would need to actually be curious about what would happen if the caregiver followed through with the suggestion and also be willing to honor the caregiver’s decision to not try the idea if he or she did not like it.	“What would happen if you just held the door handle and waited a moment before opening the door for Dante to go out?”
Commenting	The SLP notices, or points out, something the caregiver may not have noticed or thought was important. The caregiver can then use this information to help him or her be more successful in the future. Although it has many qualities of performance feedback, it is generally more conversational and spontaneous rather than scheduled.	“I noticed that when another toddler came over to you and Dante in the sand box, you moved the toys between them and in front of you so they each had access yet you had control. This allowed them to play and you to set up opportunities for them to communicate. That arrangement seemed easier for you to handle and reassured Dante that his toys were available.”
Performance feedback	When the SLP makes a focused comment providing feedback on what the caregiver has done to help the child achieve the outcome, the caregiver is more likely to repeat it or to reflect on what she did and the results. It makes the action more intentional. Performance feedback should be directly related to the strategy the caregiver is learning to use, should be provided within the context of the interaction (when possible), and should include content specific to the strategy use and the child’s outcome.	“Dante reached right for the sand box picture when you offered him the choice board. Your response, ‘Sand box. You picked sand box.’ provided a verbal model and expansion. He responded by shaking his head yes and prepared to leave the area without a fuss. Your timing was just right to match his needs.”

(table continues)

Table 1 (p. 3 of 3). Family-centered scaffolding strategies and examples for caregivers in early intervention (<http://tactics.fsu.edu>; Campbell & Sawyer, 2007; Dunst & Trivette, 2009a; Fenichel, 1991; Hanft, Rush, & Shelden, 2004; Woods & Lindeman, 2008).

Strategy	Description	Example
Reflective feedback	In many cases, the caregiver may not have been conscious of how he or she was helping the child, or why what he or she did was important. Both “commenting” and “reflecting” are ways of giving the caregiver important developmental information and guidance. They are used in the context of a naturally occurring situation and allow the SLP to take advantage of “teachable moments.” Engaging the caregiver in reflecting takes the comment to a metacognitive level for the caregiver. (Reflective suggestions differ from reflective questions because in the suggestion, the SLP is focusing the caregiver’s attention to something that could be helpful for the child and caregiver.) Reflective feedback occurs after the action and encourages the caregiver to think about what he or she did and integrate the information for future use.	“Did you see how Bailey settled right down when you started singing to her in such a soft and calm voice? You really helped her to relax, pull herself together, and be able to refocus on the book you were looking at together. Why do you think that worked so well?”
Self-disclosure	SLPs are often tempted to share stories with caregivers about their own experiences and reactions. This can be helpful to the caregiver when used to support experiential learning. It can show real understanding of the caregiver’s feelings and of the situation, give credibility to the expertise of the SLP, offer encouragement that things do get better over time, and present an opportunity to offer specific suggestions. However, these personal stories can also have a negative impact. For example, if the story shared by the SLP highlights how successful he or she is working with children, that could leave the caregiver feeling less competent. For another caregiver, the SLP’s personal anecdotes could seem like a distraction. She might wish the SLP would not be so interested in talking about herself, and refocus on the caregiver and the child. Caution to not share more than is comfortable to the caregiver is important when using this strategy.	
Notes and planning	Typically, the SLP is required to write an intervention log note at the end of each session. Recommended practice supports the development of a joint plan for the next visit. This process offers an excellent opportunity for participation and decision making by the caregiver. The SLP and caregiver can formulate the note together and can identify what the next steps are for each of them.	

important is achieved through discussion and opportunities to practice. Comprehension of the importance of the skill by the caregivers helps them integrate it with what they already know, to see similarities and differences, and to use it more confidently. Knowing *why* also facilitates the adult’s generative use of the strategy, increasing his or her independence and ability to apply the skill when appropriate in the future. Second, strategies that further the process of participatory learning are ones that actively engage caregivers in the teaching and learning process and encourage their input in the refinement of the strategy use, and that the adult evaluates for utility. SLPs can increase caregivers’ participation in every component of the teaching cycle by providing opportunities for their input and decision making.

Consultation with caregivers that results in optimal learning requires planning and problem solving with the

caregiver to ensure that sufficient instructional opportunities are attached to specific activities/routines. SLPs providing interactive toys, visual supports, or social games they might use in a clinician-directed session must provide adequate demonstration and guided practice to the caregiver on what, how, when, and how often to use the specific strategies with the child. For example, simply providing or arranging an environment that supports communication, play, and social interaction has not provided adequate effects. Further, it is important to focus on communication outcomes as a means of enhancing children’s participation in activities/routines, which in turn increases learning opportunities for more complex communication skills. Research conducted on the effectiveness of caregiver-implemented interventions far exceeds research conducted on methods of training parents and other caregivers to implement interventions. Approaches that incorporate the existing research that supports the use

of adult learning strategies (e.g., encompass the adult's experiences and interests, demonstration and specific feedback, problem-solving strategies to increase independent decision making and generalized use of information, self-assessment on effectiveness, and sequential instruction) are promising practices that merit further study (Buyse & Wesley, 2004; Knight, 2007).

Conclusion

Although much is familiar for SLPs working in EI, there is also much to learn to move the implementation of recommended practices into a coordinated and consistent family-centered approach. Research indicates that the shift of location for service delivery is well underway, with more supports and services provided in the child's natural environments (Hebbeler et al., 2008). Although important, location is not sufficient. Data also indicate that many practices typical in clinical or center settings have moved to the new locations. Bags of toys, special equipment or materials, and planned activities/routines accompanying the SLP reflect a physical movement of the clinic to the home rather than the integration of communication outcomes functional to the child's everyday activities/routines with his or her caregivers. SLPs joining into the child's hand-washing routine with the caregiver to support the child's participation, listening to the caregiver identify important words to increase interactions with friends on the playground, or participating in circle and outdoor play time at the child care center with the caregiver to increase use of a visual support exemplifies the intent of the definition of natural environments.

SLPs must recognize that intervention planning includes carefully planning for the adult learner as well as the child. Although there is much to learn about "how to" approach each adult as a learner and a communication partner for the child, there are expanding resources and professional development, such as the ASHA EI documents (2008), to serve as guides. Implementation links the evidence-based practices to child and family outcomes (Odom, 2009). The use of consultation and coaching models informed by adult learning will support evidence-based child communication interventions and enhance the original commitment to implementation of family-centered practices.

REFERENCES

- American Speech-Language-Hearing Association.** (2008). *Roles and responsibilities of speech language pathologists in early intervention: Guidelines*. Available from www.asha.org/policy.
- Andrews, J., & Andrews, M.** (1990). *Family based treatment in communicative disorders: A systemic approach*. Dekalb, IL: Janelle Publications.
- Bailey, D. B., Hebbeler, K., Scarborough, A., Spiker, D., & Mallik, S.** (2004). First experiences with early intervention: A national perspective. *Pediatrics, 113*, 887–896.
- Bernheimer, L. P.** (1999). Through a new looking glass: Cultural models and early intervention. *Journal of Early Intervention, 33*, 286–288.
- Bonk, C. J., & Kim, K. A.** (1998). Extending sociocultural theory to adult learning. In M. C. Smith & T. Pourchot (Eds.), *Adult learning and development* (pp. 67–88). Mahwah, NJ: Erlbaum.
- Bronfenbrenner, U.** (1992). Ecological systems theory. In R. Vasta (Ed.), *Six theories of child development: Revised formulations and current issues* (pp. 187–248). Philadelphia, PA: Kingsley.
- Buyse, V., & Wesley, P.** (2004). *Consultation in early childhood settings*. Baltimore, MD: Brookes.
- Campbell, P. H., & Sawyer, L. B.** (2007). Supporting learning opportunities in natural settings through participation-based services. *Journal of Early Intervention, 29*(4), 287–305.
- Crais, E. R., Roy, V. P., & Free, K.** (2006). Parents' and professionals' perceptions of the implementation of family-centered practices in child assessments. *American Journal of Speech-Language Pathology, 15*, 365–377.
- Dempsey, I., & Keen, D.** (2008). A review of processes and outcomes in family-centered services for children with a disability. *Topics in Early Childhood Special Education, 28*(1), 42–52.
- Donovan, M. S., Bransford, J. D., & Pellegrino, J. W.** (1999). *How people learn: Bridging research and practice*. Washington, DC: National Academies Press.
- Dunst, C. J.** (2007). Early intervention with infants and toddlers with developmental disabilities. In S. L. Odom, R. H. Horner, M. Snell, & J. Blacher (Eds.), *Handbook of developmental disabilities* (pp. 161–180). New York, NY: Guilford Press.
- Dunst, C., & Bruder, M.** (2002). Valued outcomes of service coordination, early intervention, and natural environments. *Exceptional Children, 68*, 361–375.
- Dunst, C. J., Bruder, M. B., Trivette, C. M., Hamby, D., Raab, M., & McLean, M.** (2001). Characteristics and consequences of everyday natural learning opportunities. *Topics in Early Childhood Special Education, 21*, 68–92.
- Dunst, C. J., Hamby, D., Trivette, C. M., Raab, M., & Bruder, M. B.** (2000). Everyday family and community life and children's naturally occurring learning opportunities. *Journal of Early Intervention, 23*(3), 151–164.
- Dunst, C. J., & Trivette, C. M.** (2009a). Let's be PALS: An evidence-based approach to professional development. *Infants and Young Children, 22*, 164–176.
- Dunst, C. J., & Trivette, C. M.** (2009b). Using research evidence to inform and evaluate early childhood intervention practices. *Topics in Early Childhood Special Education, 29*(1), 40–52.
- Dunst, C. J., Trivette, C. M., & Deal, A. G.** (1994). Resource-based family-centered intervention. In C. J. Dunst, C. M. Trivette, & A. G. Deal (Eds.), *Supporting and strengthening families: Methods, strategies, and practices* (pp. 140–151). Cambridge, MA: Brookline Books.
- Dunst, C. J., Trivette, C. M., & Hamby, D. W.** (2007). Meta-analysis of family centered help giving practices research.

- Mental Retardation and Developmental Disabilities Research Reviews*, 13, 370–378.
- Fenichel, E.** (1991). Learning through supervision and mentorship to support the development of infants, toddlers, and their families. *Zero to Three Bulletin*, 12(2), 1–6.
- Fixsen, D. L., Naoom, S. F., Blasé, K. A., Friedman, R. M., & Wallace, F.** (2005). *Implementation research: A synthesis of the literature*. Tampa: Florida Mental Health Institute, University of South Florida.
- Girolametto, L., & Weitzman, E.** (2006). It takes two to talk—The Hanen program for parents: Early language intervention through caregiver training. In R. McCauley & M. Fey (Eds.), *Treatment of language disorders* (pp. 77–104). Baltimore, MD: Brookes.
- Guimond, A., Wilcox, M. J., & Lamorey, S.** (2008). The Early Intervention Parenting Self-Efficacy Scale (EIPSES): Scale construction and initial psychometric evidence. *Journal of Early Intervention*, 30, 295–320.
- Guralnick, M. J.** (2005). Early intervention for children with intellectual abilities: Current knowledge and future prospects. *Journal of Applied Research in Intellectual Disabilities*, 18(4), 313–324. doi: 10.1111/j.1468-3148.2005.00270.x.
- Hancock, T. B., & Kaiser, A. P.** (2006). Enhanced milieu teaching. In R. McCauley & M. Fey (Eds.), *Treatment of language disorders* (pp. 203–236). Baltimore, MD: Brookes.
- Hanft, B. E., Rush, D. D., & Shelden, M. L.** (2004). *Coaching families and colleagues in early childhood*. Baltimore, MD: Brookes.
- Hebbeler, K., Spiker, D., Morrison, K., & Mallik, S.** (2008). A national look at the characteristics of Part C early intervention services. In C. A. Peterson, L. Fox, & P. M. Blasco (Eds.), *Early intervention for infants and toddlers and their families: Practices and outcomes* [Young Exceptional Children Monograph 10] (pp. 1–18). Missoula, MT: Division for Early Childhood.
- Individuals with Disabilities Education Improvement Act of 2004, Pub. L. No. 108-446 §118 Stat. 2647 (2004).
- Kashinath, S., Woods, J., & Goldstein, H.** (2006). Enhancing generalized teaching strategy use in daily routines by parents of children with autism. *Journal of Speech, Language, and Hearing*, 49(3), 466–485.
- Knight, J.** (2007). *Instructional coaching: A partnership approach to improving instruction*. Thousand Oaks, CA: Corwin Press.
- Knowles, M. S., Holton, E. F., & Swanson, R. A.** (2005). *The adult learner: The definitive classic in adult education and human resource development* (6th ed.). London, England: Elsevier.
- Lave, J., & Wenger, E.** (1991). *Situated learning: Legitimate peripheral participation*. New York, NY: Cambridge University Press.
- National Early Childhood Technical Assistance Center.** (2008). *Workgroup on Principles and Practices in Natural Environments (2008, February). Agreed upon practices for providing early intervention services in natural environments. OSEP TA Community of Practice-Part C Settings*. Retrieved from <http://www.nectac.org>.
- Odom, S. L.** (2009). The tie that binds: Evidence based practice, implementation science, and outcomes for children. *Topics in Early Childhood Special Education*, 29, 53–61.
- Peterson, C. A., Luze, G. J., Eshbaugh, E. M., Jeon, H., & Kantz, K. R.** (2007). Enhancing parent–child interactions through home visiting: Promising practice or unfulfilled promise? *Journal of Early Intervention*, 29, 119–140.
- Raab, M., & Dunst, C.** (2007). *Influence of child interests on variations in child behavior and functioning*. (Winterberry Research Syntheses Vol. 1, No. 21). Asheville, NC: Winterberry Press.
- Rogoff, B.** (1990). *Apprenticeship in thinking: Cognitive development in social context*. New York, NY: Oxford University Press.
- Salisbury, C., Woods, J., & Copeland, C.** (2010). Provider perspectives on adopting and using collaborative consultation in natural environments. *Topics in Early Childhood Special Education*, 30, 132–147.
- Sandall, S., Hemmeter, M. L., Smith, B., & McLean, M.** (2005). *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education*. Longmont, CO: Sopris West.
- Trivette, C., & Dunst, C.** (2007). *Capacity-building family-centered help-giving practices*. (Winterberry Research Syntheses Vol. 1, No. 1). Asheville, NC: Winterberry Press.
- Trivette, C., Dunst, C., Hamby, D., & O’Herin, C.** (2009). *Characteristics and consequences of adult learning methods and strategies*. (Winterberry Research Syntheses Vol. 2, No. 2). Asheville, NC: Winterberry Press.
- Weiss, R. S.** (1981). INREAL intervention for language handicapped and bilingual children. *Journal of Division for Early Childhood*, 4, 40–52.
- Wetherby, A. M., & Woods, J. J.** (2006). Early social interaction project for children with autism spectrum disorders beginning in the second year of life: A preliminary study. *Topics in Early Childhood Special Education*, 26, 67–82.
- Wilcox, M. J., Guimond, A. B., & Kim, S. J.** (2010, February). *The relationship between home visiting practices focused on teaching caregivers and children’s outcomes*. Poster presented at the biannual meeting of the Conference on Research Innovations in Early Intervention, San Diego, CA.
- Wilcox, M. J., & Woods, J.** (2011). Participation as a basis for developing early intervention outcomes. *Language, Speech, and Hearing Services in Schools*, 42, 365–378.
- Winton, P. J., Brotherson, M. J., & Summers, J. A.** (2008). Learning from the field of early intervention about partnering with families. In M. Cornish (Ed.), *Promising practices for partnering with families in the early years* (pp. 21–40). Greenwich, CT: Information Age.
- Woods, J. J., & Lindeman, D. P.** (2008). Gathering and giving information with families. *Infants and Young Children*, 21, 272–284.
- Woods, J., & Marturana, E.** (2010, December). *From a distance: Using performance based video feedback for mentoring* [Webinar]. Chapel Hill, NC: National Early Childhood Technical Assistance Center.

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