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# An Annotated Bibliography of the Research Supporting Key Principles for Providing Early Intervention Services in Natural Environments

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Research from the last 20 years, with most emphasis on the last 10 years, was reviewed and annotated. Findings provide support and an evidence base for a set of 7 consensus-based principles that describe a value base for early intervention. When a study addresses more than one principle, secondary and/or tertiary principles are also listed. Research was selected from peer reviewed journals, with a few exceptions of research published on-line. The bibliography includes the following types of studies: quantitative, quantitative with control, and qualitative research (or a mix of these methods), as well as reviews or meta-analyses of research.

## *An Annotated Bibliography of Research, Theory and Promising Practices in Early Intervention: A Searchable Data Base*

This document is an excerpt from a larger, searchable database of annotated journal articles available on Washington's Early Support for Infants and Toddlers Program (ESIT) website (<http://www.nectac.org/search/natenvbibfinder.asp>). The database was developed by the WA State Part C System Improvement Project and the Data Management System Replacement Project.

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## Learn More About

### *An Agreed Upon Mission and Key Principles of Early Intervention in Natural Environments*

A diverse workgroup of researchers, model developers, lead agency staff and early intervention providers, TA providers, and family advocates reached consensus on key principles that provide the foundation for early intervention practices. For more information and other documents by this work group see the following:

Workgroup on Principles and Practices in Natural Environments (November, 2007) Mission and principles for providing services in natural environments. OSEP TA Community of Practice-Part C Settings.

[http://www.nectac.org/~pdfs/topics/families/Finalmissionandprinciples3\\_11\\_08.pdf](http://www.nectac.org/~pdfs/topics/families/Finalmissionandprinciples3_11_08.pdf)

## Key Principle 1

Infants and toddlers learn best through everyday experiences and interactions with familiar people in familiar contexts.

Brook, L., Sawyer, E., & Campbell, P. (2009). Beliefs about participation-based practices in early intervention. *Journal of Early Intervention, 31*, 326-343.

<http://jei.sagepub.com/content/31/4/326.full.pdf+html>

Although interventionists' beliefs about the importance of participation-based practices have been reported, researchers have shown that practitioners do not necessarily conduct their day-to-day practices in a manner that reflects those beliefs. This article describes a study that examined respondents' beliefs about participation-based services and eight other early intervention practices. Respondents included 211 Practitioners, 142 Pre-service students and 16 Higher Education "experts." "Other" early intervention strategies are defined as predominately directed by practitioners to children and do not consistently embed interventions into natural environments. Two main findings emerged from the study: 1) all participants were more positively inclined toward the eight "other" early intervention practices than participation-based strategies and (b) practitioners' beliefs were more similar to higher education "experts" than students. "None of the three groups strongly agreed with the statement about children's participation in the families' activities and routines as being more important than learning developmental skills," despite the evidence that children's development is enhanced through participation and engagement in activities and routines. Also supports Principle 7.

Campbell, P. H., Sawyer, L. B., & Muhlenhaupt, M. (2009). The meaning of natural environments for parents and professionals. *Infants & Young Children, 22*(4), 264-278.

[http://journals.lww.com/iycjournal/Abstract/2009/10000/The\\_Meaning\\_of\\_Natural\\_Environments\\_for\\_Parents.4.aspx](http://journals.lww.com/iycjournal/Abstract/2009/10000/The_Meaning_of_Natural_Environments_for_Parents.4.aspx)

Twenty years after the term "natural environments" was first included in federal laws pertaining to infants and toddlers with disabilities, 86% of Part C early intervention services are provided in children's homes. However, many studies have indicated that these home-based services may look very similar to those provided in clinical settings. This article describes a qualitative study intended to explore how parents and professionals (i.e., therapists) interpreted the concept of natural environments, and to identify any differences in perspectives. One parent defined natural environments as "something that's likely not set up. Like somebody who's bringing in a bag of stuff and sitting down on your living room floor and just kind of one sort of toy after another, but using whatever is available in that sort of particular situation whether it's home, a day care, a park, whatever." Findings indicated that parents in this study, more than their service providers, understood that the term "natural environments" not only refers to service locations but also defines how services are provided. Also supports Principle 2.

Campbell, P., Milbourne, S., Dugan, L., & Wilcox, J. (2006). A review of evidence on practices for teaching young children. *Topics in Early Childhood Special Education, 26*(1), 3-13.

<http://tec.sagepub.com/content/26/1/3.full.pdf+html>

This article provides a literature review of peer-reviewed articles published between 1980 and 2004 that focused on the use of assistive technology (AT) devices by infants and toddlers with disabilities and developmental delays. Articles included in the review also needed to report data about practices used to promote children's use of these devices. Findings indicated that over the past 25 years an increasing number of articles about AT use with infants and toddlers have been published, however only 38 articles published reported data, and only 23 of these were considered empirical. These 23 articles reported effective teaching strategies for teaching targeted skills, but had limited emphasis on the context in which skills would be used. The authors discuss the need for additional research on this topic, as well as research that aligns with current recommended practices, such as the use of these devices to enhance the participation of infants and toddlers in natural environments.

Chen, D., Klein, D. M., & Minor, L. (2009). Interdisciplinary perspectives in early intervention: Professional development in multiple disabilities through distance education. *Infants & Young Children, 22*(2), 146-168.

[http://journals.lww.com/iycjournal/Fulltext/2009/04000/Interdisciplinary\\_Perspectives\\_in\\_Early.7.aspx#](http://journals.lww.com/iycjournal/Fulltext/2009/04000/Interdisciplinary_Perspectives_in_Early.7.aspx#)

Providing services to very young children with severe and multiple disabilities in natural environments requires the expertise of many key disciplines (e.g., occupational therapy, physical therapy, speech and language therapy, visual and hearing specialists). However, few graduate programs in these disciplines offer coursework in severe disabilities and little or no content in early intervention. This article describes the development, implementation, and evaluation of an online

professional development course designed to develop an understanding of the foundations, perspectives, and strategies used by key disciplines that provide services for infants with multiple disabilities and for their families. A total of 110 early interventionists in California completed the online course successfully. An overview of the course content, structure, assignments, and online instruction is provided. A discussion of outcomes includes feedback from participants and the article concludes with a discussion on implications for professional development in early intervention. Also supports Principles 2 and 3.

Dugan, L. M., Campbell, P. H., & Wilcox, M. J. (2006). Making decisions about assistive technology with infants and toddlers. *Topics in Early Childhood Special Education, 26*(1), 25-32.

<http://tec.sagepub.com/content/26/1/25.full.pdf+html>

This study follows up on a previous study focused on examining provider beliefs regarding the use of AT with infants and toddlers with disabilities (Wilcox et. al 2006). Participants included 424 providers who were recruited from the 967 providers who participated in the original study. The current study aimed to gain further insight into how providers make decisions about AT and also examine possible relationships between decision making practices and beliefs reported in the original survey. In the earlier study, a majority of the participants disagreed with statements in the literature that have been described as potential barriers to the use of AT in early intervention (e.g., they did not believe that the use of AT would inhibit acquisition of typical skill). Despite this, findings from this study indicated that, for the most part, AT was not selected as an intervention until children were older than 24 months. Providers had a tendency to choose skill-building interventions and underutilize AT devices. The authors conclude that providers would benefit from evidence based training opportunities to apply recommended practices regarding the use of AT within a family-centered framework as a way to promote and support young children's participation in everyday activities and routines. Also supports Principle 7.

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*(2), 68-92.

<http://tec.sagepub.com/content/21/2/68.abstract>

This study examined the influences of a number of person and environment factors on children's learning opportunities, performance and functioning across domains. Sixty-three parents or caregivers and their infants, toddlers and preschools with disabilities participated. Results from this study replicated and extended findings from other investigations that demonstrated that everyday activities and social responsiveness are important to promoting children's development, functioning and competence. As the authors conclude, "experiences that make up the fabric of everyday life can be either development-impeding or development-instigating" and that "learning opportunities that were interesting and engaging and that provided children contexts for exploring, practicing, and perfecting competence proved to be characteristics that were most development instigating." A figure is provided that outlines characteristics of learning activities (e.g., activities provided in natural environments) that were shown to be associated with positive consequences for the study participants.

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.

<http://www.eric.ed.gov/PDFS/EJ623205.pdf>

Two national surveys of caregivers were conducted to identify the types of activities that provide learning opportunities for young children, birth to age six. Each survey identified 50 kinds of activity settings and sources of learning opportunities in family or community life, that were identified from a review of literature of activity settings of diverse families and communities of people in the United States. Nearly 3300 parents and other caregivers of young children with disabilities participated in the surveys, with results indicating that both family- and community-life were made of 11 different categories of learning opportunities. A table provides detail of the 11 categories (e.g., family excursions, children's attractions) and examples of activities that provided opportunities for children's learning. This study expands the concept of natural environments, indicating that these 22 categories of family and community life provide a rich array of learning opportunities for young children. Likewise, this information expands the early intervention practitioner's role to include the use of learning opportunities afforded by others (i.e., family members) as well as those provided by themselves.

Dunst, C. J., Trivette, C. M., Humphries, T., Raab, M., & Roper, N. (2001). Contrasting approaches to natural learning environment interventions. *Infants & Young Children, 14*(2), 48-63.

[http://journals.lww.com/iyjournal/Abstract/2001/14020/Contrasting\\_Approaches\\_to\\_Natural\\_Learning.7.aspx](http://journals.lww.com/iyjournal/Abstract/2001/14020/Contrasting_Approaches_to_Natural_Learning.7.aspx)

Research, practice and policy literature from the last 15 years were used in this article to define natural learning environments and four major types of natural learning environments practices being utilized in the field. The article proposes a framework for operationalizing natural learning environment interventions, including setting (i.e., contextual, non-contextual); type of activity (i.e., adult or child directed) and practitioner (i.e., practitioner present or absent) dimensions. The authors found that one approach to natural learning environments interventions (practitioner implemented, adult directed) has increasingly been emphasized to the exclusion of other kinds of naturally occurring learning opportunities. The authors discuss the need for further research on what types of combination of natural environment practices is effective at different child ages and under different conditions.

Dunst, C. J., Bruder, M. B., Trivette, C. M., & Hamby, D. W. (2006). Everyday activity settings, natural learning environments, and early intervention practices. *Journal of Policy and Practice in Intellectual Disabilities, 3*(1), 3-10.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1741-1130.2006.00047.x/abstract>

Early intervention services in natural environments may be conceptualized as either 1) providing early intervention in an activity setting or 2) utilizing an activity setting as a learning opportunity. The authors provide examples of these as follows: "Engaging a child in a range of motion exercises during the child's bath time is an example of implementing early intervention in an activity setting, whereas a child watering flowers or vegetables with a garden hose is an example of using an activity setting as an everyday learning opportunity." This article presents findings from two studies examining the parent and child outcomes associated with different ways of conceptualizing natural learning environments. Results from both studies showed that using everyday activities as sources of children's learning opportunities were associated with positive benefits, whereas practitioners' implementing their interventions in everyday activities showed little or no positive benefits, and in several cases, had negative consequences. Results are discussed in terms of the need to carefully consider how and in what manner natural learning environment practices are operationalized by early intervention practitioners, and the important implications for the provision of culturally sensitive intervention services. Also supports Principle 3.

Dunst, C., Trivette, C., Raab, M., & Masiello, T. (2008). Early child contingency learning and detection: Research evidence and implications for practice. *Exceptionality, 16*(1), 4-17.

<http://www.tandfonline.com/doi/abs/10.1080/09362830701796743>

This article provides a review and integration of research evidence on *child contingency detection and learning* and draw implication for early intervention practices. The article discusses and provides research evidence on 3 types of contingencies that are learned by infants and young children that influence their development: behavior-based contingencies, environment-based contingencies; and child/caregiver-based contingencies. Each of these contingencies entail a child's awareness and understanding of the relationship between one event (e.g., a baby swiping at a play mobile) and another event (e.g., the mobile moves and makes sounds), as well as the child learning through experience whether there are positive or negative consequences to these events. Research is presented that indicates that "Part C early intervention as we now know it includes a preponderance of practices that are not likely to significantly affect changes in the behavior and development of infants and toddlers with disabilities or delays." The authors conclude that *child contingency detection and learning* is evidence-based and indicated as a way to provide early intervention to young children with developmental disabilities-especially those with significant disabilities. Also supports Principle 7.

Dunst, C., & Swanson, J. (2006). Parent-mediated everyday child learning opportunities: II. Methods and procedures. *CASEinPoint, 2*(11).

[http://www.fippcase.org/caseinpoint/caseinpoint\\_vol2\\_no2.pdf](http://www.fippcase.org/caseinpoint/caseinpoint_vol2_no2.pdf)

This online article provides descriptions of methods and procedures for implementing Contextually Medicated Practices (CMP) in early childhood intervention practices. "CMP is a promotional approach to early childhood intervention that uses everyday activities as sources of child learning opportunities and child interests as the basis for promoting child participation in those activities." Service providers intervene by promoting and strengthening parents' capacity to provide increased "number, frequency, variety, and quality of interest-based everyday learning opportunities afforded their children." The authors conclude that this approach is based on more than 26 years of research that indicates that this intervention method is likely to be optimally effective in terms of benefits to children and parents. The appendix includes checklists for implementing CMP. Also supports Principles 2 and 3.

Frey, J. R., & Kaiser A. P. (2011). The use of play expansions to increase the diversity and complexity of object play in young children with disabilities. *Topics in Early Childhood Special Education* 31(2), 99-111. <http://tec.sagepub.com/content/31/2/99.full.pdf+html>

*"Play is influenced by and contributes to children's cognitive, language and social growth."* Young children with disabilities may experience delays in their play skills decreasing the quality of their interactions with peers and adults and ultimately reducing learning opportunities. This article describes a single-subject study of children examining the effects of intervention to expand children's play actions with objects. Results indicated that during intervention sessions children increased the overall number of play actions, the number of spontaneous novel actions, and increased the complexity of their play actions. The authors conclude that while children may need direct interventions to learn how to increase their play actions, more naturalistic interventions such as expansion (as opposed to direct instruction or prompting) are effective in increasing play actions. Utilizing more naturalistic strategies provides opportunities for teachers, parents and siblings to learn strategies to support young children with disabilities in home and community settings. Also supports Principle 2.

Guralnick, M. J. (2010). Early intervention approaches to enhance the peer-related Social competence of young children with developmental delays: A historical perspective. *Infants and Young Children*, 23(2), 73-83. [http://journals.lww.com/iycjournal/Abstract/2010/04000/Early\\_Intervention\\_Approaches\\_to\\_Enhance\\_the.2.aspx](http://journals.lww.com/iycjournal/Abstract/2010/04000/Early_Intervention_Approaches_to_Enhance_the.2.aspx)

Building relationships, including relationships with peers, is a core component of a child's development and the *"rudiments of peer competence can be observed during the toddler years."* However the author discusses how, *"these peer competence processes are highly sensitive to and easily perturbed by adverse environmental factors"* making children with delays/disabilities unusually vulnerable to peer competence difficulties. This article provides a framework for future research and program development designed to support peer related social competence for young children with disabilities. The author examines peer competence from a historical perspective, beginning in the 1970s when the problem was first recognized, to contemporary approaches. Future directions are discussed, and the author describes his hope that in the next decade new levels of theory, knowledge, and practice will be generated. Also supports Principle 7.

Hickman, R., Westcott-McCoy, S., Long, T. M., & Rauh, M. R. (2011). Applying contemporary developmental and movement science theories and evidence to early intervention practice. *Infants and Young Children* 24(1), 29-41. [http://journals.lww.com/iycjournal/Abstract/2011/01000/Applying\\_Contemporary\\_Developmental\\_and\\_Movement.3.aspx](http://journals.lww.com/iycjournal/Abstract/2011/01000/Applying_Contemporary_Developmental_and_Movement.3.aspx)

This article provides a description of the evolution of early intervention practice models, examines related theories and best practices for improving outcomes of children with motor delay or dysfunction and their families. A new model that integrates this information with a perspective of early-childhood science, grounded in the principles of family-centered, support-based care and systems theory is presented. Research-based evidence for recommendations regarding EI programming for children with motor delays or dysfunctions is presented. These recommendations include partnering with families to: 1) develop meaningful goals, 2) *"find ways to build opportunities for children to engage in high-volume, task specific practice of target behaviors,"* 3) design interventions in children's natural environments, and finally to 4) build the capacity of the child's family to meet their child's needs. Directions for future research are discussed. Also supports Principles 2 and 5.

Light, J., & Drager, K. (2007). AAC technologies for young children with complex communication needs: State of the science and future research directions. *Augmentative and Alternative Communication*, 23(3), 204-216. <http://www.ncbi.nlm.nih.gov/pubmed/17701740>

This article summarizes research and defines priorities for future research related to the use of alternative and augmentative communication (AAC) technologies with young children with complex communication needs. What is known about the use of these devices with very young children with complex communication needs? Do these devices need to be redesigned to increase their usability, appeal and expand their function? Further research is needed to maximize outcomes for young children, including research to better understand family preferences and priorities to determine that these technologies are "consumer-responsive."

Mahoney, G., & Perales, F. (2003). Using relationship-focused intervention to enhance the social-emotional functioning of young children with autism spectrum disorders. *Topics in Early Childhood Special Education*, 23, 77-89.

<http://tec.sagepub.com/content/23/2/74.abstract>

This quasi-experimental study examined the effectiveness of encouraging parents to engage in responsive interactions on the social-emotional development of 20 young children diagnosed with autism spectrum disorders (ASD). Intervention sessions focused on parents using a Responsive Teaching curriculum (Mahoney & MacDonald), a holistic intervention focused on teaching parents to use responsive interaction strategies during routine events to address their children's developmental needs. Results of pre- and post- tests indicated that the intervention was successful at encouraging mothers to engage in more responsive interactions with their children. Children participating in the interventions made statistically significant improvements in their social-emotional functioning including decreases in problem behaviors and increases in social competence. The authors conclude that there is a critical need for further controlled studies on this topic, however these results indicate that relationship focused interventions hold promise for enhancing social-emotional functioning of children with ASD. Also supports Principles 2 and 3.

Romski, M., & Sevcik, R. (2005). Augmentative communication and early Intervention. Myths and realities. *Infants & Young Children*, 18(3), 174-185.

[http://journals.lww.com/iycjournal/Fulltext/2005/07000/Augmentative\\_Communication\\_and\\_Early\\_Intervention\\_2.aspx](http://journals.lww.com/iycjournal/Fulltext/2005/07000/Augmentative_Communication_and_Early_Intervention_2.aspx)

Augmentative and alternative communication (AAC) technologies have improved substantially since the 1980's, yet are underutilized in the field of early intervention. These technologies have the potential to support a child's ability to learn through everyday experiences and interactions with familiar people in familiar contexts. This article examines myths that may be influencing practitioners' use of AAC with infants and toddlers and presents research and arguments to refute these myths. For example, one common myth presented is that ACC hinders or stops further speech development. The authors provide evidence that AAC does not appear to hinder speech development, and may in fact enhance the development of spoken language. The authors conclude that, "The reality is that it is never too early to incorporate AAC into language and communication for the young child with a significant communication disability." Speech-language pathologists are encouraged to take the lead on providing AAC services to children on their caseloads, and practitioners are urged to consider AAC technologies as a first line intervention, not a last resort.

Roper, N., Ianch, L., & Gurley, C. (2005). Language learning in children exhibiting characteristics of apraxia using contextually mediated practices. *CASEinPoint*, 1(3).

[http://www.fippcase.org/caseinpoint/caseinpoint\\_vol1\\_no3.pdf](http://www.fippcase.org/caseinpoint/caseinpoint_vol1_no3.pdf)

Contextually Mediated Practices (CMP) is an approach to early childhood therapy and intervention that uses everyday family and community activities and a child's activities as a context for intervention. This on-line article describes the results of a pilot study assessing the effectiveness of (CMP) with three children exhibiting characteristics of apraxia. In this study, children's interests and routine settings were identified and parents were trained on the use of responsive teaching as a strategy for promoting the child's communicative behavior in activity settings. A multiple baseline design was used to assess the effectiveness of CMP, with one and two-word phrases operating as the dependent variable. This pilot study produced preliminary evidence that using CMP with these children promoted language use and adds to a growing body of evidence demonstrating the benefits of utilizing CMP practices. Also supports Principle 3.

Wilcox, J., Dugan, L., & Campbell, P. (2006). Recommended practices and parent perspectives regarding AT use in early intervention. *Journal of Special Education*, 21(4), 7-16.

[http://eric.ed.gov/ERICWebPortal/search/detailmini.jsp?\\_nfpb=true&\\_ERICExtSearch\\_SearchValue\\_0=EJ767732&ERICExtSearch\\_SearchType\\_0=no&accno=EJ767732](http://eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=EJ767732&ERICExtSearch_SearchType_0=no&accno=EJ767732)

This article describes a research survey of 942 parents or other family members on their experiences using assistive technology (AT) devices with their infants and toddlers who are receiving early intervention services. Research on the use of AT reports a number of benefits, including the promotion of opportunities for a child's participation in activities in natural environments. Results of this study indicate that parent and family members report a relatively high use of AT with their infants and toddlers, including the use of both high and low tech AT, and the use of devices with infants under 6 months of age. This finding is in contrast to previous research that has reported the underutilization of AT with infants and toddlers. The authors conclude that it appears that "parents and family members find and use AT with their children, but do so **on their own** (emphasis added) or **outside** (emphasis added) of the Part C early intervention system." The need for enhanced collaboration between early intervention providers and family members is suggested. Also supports Principles 3 and 7.

Wilcox, J., Guimond, A., Campbell, P., & Weintraub, H. (2006). Provider perspectives on the use of assistive technology for infants and toddlers with disabilities. *Topics in Early Childhood Special Education, 26*(1), 33-49. [http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?\\_nfpb=true&\\_ERICExtSearch\\_SearchValue\\_0=EJ762931&ERICExtSearch\\_SearchType\\_0=no&accno=EJ762931](http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=EJ762931&ERICExtSearch_SearchType_0=no&accno=EJ762931)

Policy and a growing research base support the use of Assistive Technology (AT) devices for very young children with disabilities. Despite the evidence that the use of these devices provides increased learning opportunities for infants and toddlers in natural environments, the use of AT remains low in early intervention service provision. This article describes a study that explored provider's perspectives on issues considered important or influential in the selection and use of AT in early intervention. Early intervention providers (N=967) were surveyed in 33 different states regarding their views of assistive technology (AT) for infants and toddlers. Findings included that only 18% of the sample reported having "a lot" of training, and that 44% reported that few or no children who needed AT were receiving these services. The authors conclude that additional research utilizing different methodologies is needed to understand the complexities of AT in EI, as well as research on the best ways to promote the use of AT in early intervention. Also supports Principles 7 and 3.

Wilcox, M. J., & Woods, J. (2011). Participation as a basis for developing early intervention outcomes. *Language, Speech, and Hearing Services in the Schools*, published online March 8, 2011 as doi:10.1044/0161-1461(2011/10-0014) [http://lshss.asha.org/cgi/rapidpdf/0161-1461\\_2011\\_10-0014v1?maxtoshow=&hits=10&RESULTFORMAT=1&author1=wilcox&author2=woods&title=Participation+as+a+basis+for+developing+early+intervention+outcomes.+&andorexacttitle=and&andorexacttitleabs=and&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT](http://lshss.asha.org/cgi/rapidpdf/0161-1461_2011_10-0014v1?maxtoshow=&hits=10&RESULTFORMAT=1&author1=wilcox&author2=woods&title=Participation+as+a+basis+for+developing+early+intervention+outcomes.+&andorexacttitle=and&andorexacttitleabs=and&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT)

This article describes an approach for developing early intervention outcomes that is consistent with the International Classification of Functioning, Disability, and Health (ICF) model of disability, and that focuses on participation in activities/routines as a basis for developing those outcomes. The focus of this article is on young children's communication and language learning and how strategies such as receiving speech therapy two times a week is not consistent with the ICF model, or the construct of participation as a basis for developing outcomes. The authors use case examples to help understand participation and provide strategies for assessing participation in activities/ routines. Procedures for gathering information from families utilizing a family-centered approach and strategies for collaborating with caregivers to develop outcomes are presented. Also supports Principles 3 and 5.

Wilson, L. L., Mott, D. W., & Batman, D. (2004). The asset-based context matrix: A tool for assessing children's learning opportunities and participation in natural environments. *Topics in Early Childhood Special Education, 24*(2), 110-120. <http://tec.sagepub.com/content/24/2/110.full.pdf+html>

Dunst et al (1998) examined the contents of 3,000 IEP's and IFSP's and found that 67% of the outcomes had little or no likelihood of promoting a child's participation in family or community activities. This article provides a description of a practice-based assessment tool, the *Asset-Based Context Matrix (ABC Matrix)*, that assists practitioners in "bridging the gap between assessment findings and the development and implementation of interventions in natural environments." The *ABC Matrix* is a contextually based assessment tool that considers children's everyday interests and abilities as factors promoting participation in natural environments. The tool has been field tested, and practitioners found the *ABC Matrix* was useful, easy to use, and helpful for developing IFSPs. Sample questions, examples of information obtained, links to IFSP development, and a copy of the *ABC Matrix* are included in the appendix. Also supports Principle 3.

Woods, J. J., & Wetherby, A. M. (2003). Early identification of and intervention for infants and toddlers who are at risk for autism spectrum disorder [Electronic version]. *Language, Speech, and Hearing Services in Schools, 34*, 180-193. <http://lshss.asha.org/cgi/content/abstract/34/3/180>

Interventions with young children with disabilities must be based on validated practices, and research indicates that interventions for young children with autism spectrum disorders (ASD) has a much greater impact if provided before age 3 when compared to interventions provided after age 5. This article reviews social-communication characteristics of very young children with ASD that could inform early identification initiatives. Four major research findings for evidence based practices for young children with ASD are summarized and discussed, including the need to go beyond the use of traditional outcome measures and "gather meaningful measures of a child's abilities in order to guide intervention decisions" and that "current research indicates that natural environments is likely to be the most effective intervention approach to address gains in initiation and generalization for children with ASD." The authors suggest a set of guiding

principles for providing interventions for infants and toddlers who are at risk for ASD and the need for researchers and practitioners to maintain a focus on the early identification and effective interventions for these young children. Also supports Principle 7.

## Key Principle 2

All families, with the necessary supports and resources, can enhance their children's learning and development.

Bugental, D. B., Beaulieu, D. A., Silbert-Geiger, A. (2010). Increases in parental investment and child health as a result of an early intervention. *Journal of Experimental Child Psychology*, 106(1), 30-40.

<http://www.sciencedirect.com/science/article/pii/S0022096509001829>

How invested, in terms of time spent and money, are parents in their children? The authors of this study predicted that parental investment in a child depends both on the child's risk level (i.e., low versus high) and resources that mothers acquire as a result of intervention. An experimental study examined a traditional versus a "cognitively enhanced" home visitation model, where parents were taught how to seek information and employ problem-solving tactics to solve caregiving challenges. Results indicated that the "cognitively enhanced" intervention led to increases in mothers caregiving skills, predicted increases in time spent providing care to their high-risk children, and provided ultimate health benefits to high-risk children. These findings suggest the value of early intervention programs that support parents' nonmaterial problem-solving resources. Also supports Principle 3.

Dunst, C. J., Leet, H. E., & Trivette, C. M. (1988). Family resources, personal well-being, and early intervention. *Journal of Special Education*, 22(1), 108-116.

<http://sed.sagepub.com/content/22/1/108.abstract>

While service providers may get frustrated with a family member who fails to follow through with suggested interventions for their child, this lack of follow through may have "less to do with contempt for professional opinion and more to do with lack of consensus regarding the nature of the presenting problem, the need for treatment, and the course of action that should be taken." This study examined the extent to which personal and family resources affected parent well-being and commitment to carry out prescribed child interventions. Results from measures completed by 45 mothers of young children with developmental delays indicated that neither parent nor family characteristics were related to personal well-being or parental commitment to child-level interventions. However, family support was positively related to the mother's well-being and financial resources and family support accounted for a significant amount of variance on the commitment to suggested child interventions. One unexpected finding was that family income was not at all related to well being and only slightly related to commitment to intervention. The authors discuss that we must see ourselves as family (rather than child) specialists and work to "support and strengthen families in a positive, proactive manner rather than blame or shame families for failing to subscribe to what professionals think is best for parents and their children." Also supports Principle 3.

Kelleghew, D. H. (1998). Creating opportunities for occupation: An intervention to promote the self-care independence of young children with special needs. *American Journal of Occupational Therapy*, 52, 457-465.

<http://ajot.aotapress.net/content/52/6/457.abstract>

This single subject study examined an intervention to support family members to enhance the self-care skills of young children with disabilities during routine events in home environments. Three children were selected who were receiving clinic based services and for whom there appeared to be a discrepancy between self-care ability in the clinic as compared to home. "It was apparent that these children did not generalize the skills trained in the clinic to the home setting ..." The intervention was home based and aimed at the caregiver as the "agent of change," rather than a therapist. Caregivers were not provided specific strategies for targeted self-help skills but were "encouraged to facilitate their child's independence in self-care occupations in whatever way they believed would work." Results indicated that for 2 out of 3 families the intervention did correspond to increased ability and eventual independence in targeted skills. The author discusses the implications for occupational therapists and states that the "lack of knowledge about the child's routines and skills in the home can limit the therapist's ability to provide appropriate care." Also supports Principles 1 and 3.



Mott, D. (2006). Operationalizing resourced-based intervention practices. *CASEinPoint*, 2(5).

[http://www.fipp.org/Collateral/caseinpoint/caseinpoint\\_vol2\\_no5.pdf](http://www.fipp.org/Collateral/caseinpoint/caseinpoint_vol2_no5.pdf)

This on-line article describes a study aimed at obtaining consensus on the key elements of resource-based intervention practices. These practices support families in accessing resources and supports that ultimately will support their children's learning and development. Major components of resource-based interventions include; 1) Source of Support and Resources (i.e., practitioners assist families in identifying and mobilizing formal and informal resources and supports needed to accomplish desired outcomes), 2) Community Resources Mapping (i.e., practitioners view all resources in the community as potential sources of support and help families choose the resources that will help them accomplish desired outcomes), and 3) Community Capacity Building (i.e., practitioners focus on empowering families to achieve present and future goals). Thirty-one panel members were selected, including individuals knowledgeable about resource-based interventions and parents of individuals with disabilities. Panel members reached consensus on a number of practices as "most important." The results of this study can be used by practitioners to improve their interventions and by researchers to continue research on this practice. Also supports Principle 3.

Mott, D., & Dunst, C. (2006). Influences of resource-cased intervention practices on parent and child outcomes. *CASEinPoint*, 2(6).

[http://www.fippcase.org/caseinpoint/caseinpoint\\_vol2\\_no6.pdf](http://www.fippcase.org/caseinpoint/caseinpoint_vol2_no6.pdf)

The purpose of this on-line article is to further investigate the influence of resource-based intervention practices on child and parent functioning among families of children enrolled in early intervention programs. Resource-based interventions support families in accessing resources and supports that ultimately will support their children's learning and development. The authors identified 6 major components of resource-based intervention (e.g., asset-based practices), and then examined these components to determine the extent to which EI practices consistent with the features of resource-based intervention was related to differences in child/parent behavior. Participants were 811 parents of children enrolled in early childhood intervention programs in Pennsylvania. Findings indicated that "parents who reported greater use of resource-based intervention practices by early childhood intervention program practitioners also reported greater satisfaction with the practitioners and the programs, a greater sense of personal control over the help and assistance from the practitioners, more useful advice and assistance in terms of parenting supports, and better child progress as a function of program participation." Also supports Principle 3.

Mott, D., & Swanson, J. (2006). A research synthesis of resource based intervention practice studies. *CASEinPoint*, 2(10).

[http://www.fippcase.org/caseinpoint/caseinpoint\\_vol2\\_no10.pdf](http://www.fippcase.org/caseinpoint/caseinpoint_vol2_no10.pdf)

Resource-based intervention practices are a set of strategies that "focus on mobilization and provision of resources and supports to individuals and families to achieve desired outcomes." The characteristics of resource-based intervention practices are consistent with principles of family support, as well the supports-based paradigm that emphasizes resources and supports that promote individuals' full participation in family and community life. This article provides a research synthesis of the effects of resource-based intervention strategies on children with developmental disabilities and their families. Search strategies were utilized to identify relevant studies and 11 met the selection criteria. Studies included 2,611 parents and caregivers of children birth through 8 years old. The majority of children had, or were at risk for, developing developmental disabilities. Results indicated that, "resource-based intervention practices were associated with positive outcomes for children, parents and families." The authors discuss the need for further research on this approach. Also supports Principles 3 and 7.

Roggman, L., Boyce, L., & Cook, G. (2009). Keeping kids on track: Impacts of a parenting-focused early head start program on attachment security and cognitive development. *Early Education and Development*, 20(6), 920-941.

<http://www.informaworld.com/openurl?genre=article&id=doi:10.1080/10409280903118416>

This article describes a study that examined whether a parenting-focused Early Head Start home visiting program could keep children on track developmentally. Two hundred low-income families were recruited and randomly assigned to either Early Head Start or a comparison group. Results indicated that the children assigned to the EHS program were doing better than expected based on earlier development and the risk factors facing their parents, on both attachment security and cognitive development. The children from the comparison group were doing worse than expected based on their earlier assessments and levels of risk. The results of this study support the effectiveness of focusing on parenting to support children's early development. Home-visiting programs such as this one can keep children's early development on track by providing parenting-focused home visits that help parents support their children's early development. Also supports Principle 3.

Swanson, J., Raab, M., Dunst, C. J. (2011). Strengthening family capacity to provide young children everyday natural learning opportunities. *Journal of Early Childhood Research*, 9(1), 66-80.

<http://dx.doi.org/10.1177/1476718X10368588>

*“Capacity-building early childhood intervention promotes parents’ or other caregivers’ skills, abilities, and confidence to provide children development-enhancing learning opportunities.”* This article describes a single-subject study with a multiple baseline design intended to determine if capacity-building intervention practices would strengthen family ability to provide interest-based everyday natural learning opportunities. Results indicated that all four participants experienced discernable changes on dependent measures, with effects especially pronounced for two participants. The authors discuss the implications for staff development and supervision to ensure that practitioners can acquire and use skills necessary to work with caregivers in a capacity-building manner. Also supports Principle 3.

Trivette, C. M., Dunst, C. J., Hamby, D. W., & O’Herin, C. E. (2009). Characteristics and consequences of adult learning methods and strategies [Electronic Version]. *Practical Evaluation Reports*, 2, 1-32.

[http://tnt.asu.edu/files/AdultLearning\\_rev7-04-09.pdf](http://tnt.asu.edu/files/AdultLearning_rev7-04-09.pdf)

With support from early intervention providers, families can learn to support their child’s learning and development-but what methods to support adult learning are evidence based? This research synthesis of 79 studies focuses on the effectiveness of four adult learning strategies (i.e., accelerated learning, coaching, guided design, and just-in-time training) and what components or elements exert an effect on outcomes. Three main components of adult learning strategies were analyzed including the planning phase (introduction and illustration of new material to the learner), application (opportunities for learners to practice and evaluate outcomes) and “deep understanding” (opportunities for learners to reflect and assess mastery of material). Results indicated that these 3 components are associated with positive learning outcomes, but that learning methods that actively involve learners in acquiring, using and evaluating new knowledge had the most positive benefits. Effectiveness of learning was also positively influenced by interventions that had smaller numbers of learners (less than 30) and more than 10 hours of learning across multiple occasions. Adult learning methods that were not effective included passive watching of educational videos, although these videos “may be effective when used in combination with other methods of illustration (e.g., learner input).” Implications for practice are discussed. Also supports Principle 7.

Trivette, C., Dunst, C., & Hamby, D. (2010). Influences of family-systems intervention practices on parent-child interactions and child development. *Topics in Early Childhood Special Education*, 30(1).

<http://tec.sagepub.com/content/30/1/3.abstract>

This article describes a meta-analysis that examined the extent to which family-systems intervention practices was related to parent-child interaction and child development. Implementation of a family-systems model involves practitioners utilizing capacity building help-giving practices to have family members identify family needs and supports and resources necessary to meet those needs. In addition, implementation involves practitioners supporting families to identify and utilize family strengths or develop new abilities to obtain resources and supports to meet those needs. Eight studies were included in the meta-analysis that included 910 participants, mostly mothers (89%) with the remainder being other primary caregivers. The findings, according to the authors, “constitute the first set of data showing how help giving practices and family-systems practices are empirically linked to parent-child interactions and child development.” They conclude that family-systems intervention practices “help put in place those resources and supports that ensure parents have time and energy to interact with their children” and ultimately create an environment where parents can enhance their children’s learning and development. Also supports Principles 3 and 7.

Warren, S. F., & Brady, N. C. (2007). The role of maternal responsivity in the development of children with intellectual disabilities. *Mental retardation and developmental disabilities research reviews*, 13, 330-338.

<http://onlinelibrary.wiley.com/doi/10.1002/mrdd.20177/pdf>

This article describes the growing body of evidence that highly responsive parenting styles during the early childhood years may provide benefits to young children in terms of language, cognitive, social and emotional development. The authors provide a description of maternal responsivity (MR), impacts on cognitive and language development and research that describes the positive impacts of MR on child development. Characteristics of both the child (i.e., behavior, responsivity) and the parent (i.e., education, health) are discussed as to how these impact maternal responsivity. Finally, the subject of whether parents can be taught to be highly responsive is addressed—with the answer being a resounding “yes!” Future directions for research are discussed. The authors conclude that, while additional studies need to be conducted to examine causal relationships between responsivity and child development, “it is clear that maternal responsivity and child development are closely related and mutually influential.” Also supports Principle 3.

Ylvén, R., & Granlund, M. (2009). Identifying and building on family strength: A thematic analysis. *Infants & Young Children, 22*(4), 263-263.

[http://journals.lww.com/iyjournal/Abstract/2009/10000/Identifying\\_and\\_Building\\_on\\_Family\\_Strength\\_\\_A.3.aspx](http://journals.lww.com/iyjournal/Abstract/2009/10000/Identifying_and_Building_on_Family_Strength__A.3.aspx)

When a child is born with a disability, the family's support system and coping strategies become important to the family's functioning. In family-centered intervention, supporting families is key to enhancing their ability to enhance their child's learning and development, and one key area to support families' is in the different ways they manage stress. This article describes a study of 6 families of children with disabilities, and was designed to investigate whether professionals encourage positive coping strategies. The study indicates that parents use all 4 types of coping identified by Folkman (1997), and that one of them, "goal-directed problem solving" is a type of coping that parent-professional collaboration tends to evolve around. The authors conclude that, "It is important that professionals encourage families' problem solving by focusing not only on explicit problem solving but also on the use of supplemental coping types, such as positive reappraisal and spiritual beliefs and practices, that contribute to a positive emotional climate in problem solving." Also supports Principle 3.

### Key Principle 3

The primary role of a service provider in early intervention is to work with and support family members and caregivers in children's lives.

Bainter, S., & Marvin, C. (2006). *Engaging practitioners in program evaluation: A preliminary report of perceptions and observations of practitioner-caregiver partnerships in early intervention. A program evaluation model*. Lincoln: University of Nebraska.

<http://www.eric.ed.gov/PDFS/ED494963.pdf>

This online paper describes a study that aimed to evaluate outcomes of providing early intervention and early childhood special education services utilizing family-directed services (including a primary service provider model). A team of practitioners in Nebraska hoped to use the results of the study to grow and learn as professionals. The study focused on providing evidence of partnerships between professional and caregivers; perceptions of each partners contributions to those partnerships, and finally if there is evidence of practitioners building caregivers' competence and confidence. Participants included 6 practitioners, 4 caregivers, and 2 teachers. Six videotaped intervention sessions were conducted in home, school or meeting sessions and follow-up surveys were administered to practitioners and caregivers. Results indicate that practitioners were demonstrating efforts to engage caregivers as partners and that all participants reported perceptions of contributions to the partnership. However, the evidence of caregiver competence and confidence still remains a question for the team. Also supports Principles 6 and 7.

Cambay-Engstrom, E., & Salisbury, C. (2010). An exploratory case study of providers' collaborative consultation practices with Latina mothers during home visits. *Infants & Young Children, 23*(4), 262-274.

[http://journals.lww.com/iyjournal/Abstract/2010/10000/An\\_Exploratory\\_Case\\_Study\\_of\\_Providers\\_.3.aspx](http://journals.lww.com/iyjournal/Abstract/2010/10000/An_Exploratory_Case_Study_of_Providers_.3.aspx)

Latino children younger than 3 years are one of the fastest growing groups in the Part C early intervention system. "Culturally responsive practices are clearly necessary to enhance the participation of families from diverse communities whose children are enrolled in Part C programs." In this exploratory case study, 4 early intervention providers' use of collaborative intervention strategies and everyday activities was examined in relation to the participation of 10 Latina mothers during home visits over a 6-month period in an urban community. Findings reveal a significantly greater use of joint interaction, a specific coaching strategy, in sessions where there was more active caregiver participation. In addition, more child-focused interactions by the provider led to significantly less active participation among these Latina mothers. Consistent with prior research, play-based routines dominated home-visiting sessions. Implications for research and practice are discussed.

Campbell, P. H., Chiarello, L., Wilcox, M. J., & Milbourne, S. (2009). Preparing therapists as effective practitioners in early intervention. *Infants & Young Children, 22*(1), 21-31.

[http://journals.lww.com/iyjournal/Abstract/2009/01000/Preparing\\_Therapists\\_as\\_Effective\\_Practitioners\\_in.5.aspx](http://journals.lww.com/iyjournal/Abstract/2009/01000/Preparing_Therapists_as_Effective_Practitioners_in.5.aspx)

Nationally, therapists (i.e., occupational, physical, speech) provide services for almost half of the children enrolled in early intervention programs. Recent studies indicate that these specialists tend to use more child-directed rather than family-

centered practices. This article describes the formal training that specialists receive and how training does not prepare specialists for family-centered work, a key recommended practice in early intervention. The authors describe parents' perspectives of what they want from specialists. "Families want providers to be good listeners and communicators, interact positively with their children, understand family routines, and fit interventions into family life." The article concludes that current approaches to preparing therapists to work in Part C environments are not adequate and that, "in the absence of some sort of planned curricula and preparation approach, therapists are likely to acquire expertise and skill in early intervention practice by chance." Also supports Principles 7 and 2.

Campbell, P., & Sawyer, L. (2007). Supporting learning opportunities in natural settings through participation-based services. *Journal of Early Intervention, 29*(4), 287-306.  
<http://dx.doi.org/10.1177/106381610702900402>

Recommended early intervention practices emphasize family-centered approaches provided within natural settings through interventionist interactions with caregivers. This article describes a study that used the *Home Visiting Observation Form (HVOF)* and the *Natural Environments Rating Scale (NERS)* to describe home visits and to examine the extent to which participation-based service (i.e., family-centered services provided in natural settings) could be distinguished from traditional services. Interventionists using participation-based approaches interacted with the caregiver-child dyad and caregivers were actively involved with their children during the session. A minority of the home visits were described as participation-based although participation-based services were clearly distinguishable from traditionally provided services. Results from the study suggest the NERS can be used to describe characteristics of participation-based services and holds promise as a measure that might be used by interventionists, their supervisors, or by researchers to measure intervention fidelity during home visits. Also supports Principle 2.

Campbell, P., & Sawyer, L. (2009). Changing early intervention providers' home visiting skills through participation in professional development. *Topics in Early Childhood Special Education, 28*, 219-234.  
<http://tec.sagepub.com/content/28/4/219.abstract>

Many recent studies have indicated that providers continue to utilize a traditional, child-directed approach to providing early intervention services rather than the recommended participation-based (i.e., family-centered) approach. This article describes a study of a group of EI providers (e.g., teachers and therapists) who participated in professional development activities focused on utilizing participation-based services in their work with families. More than half (60%) of the providers demonstrated participation-based practice at the completion of the training, while for the remainder (40%) professional development activities were insufficient to support practice change. Provider beliefs and perceptions aligned with their use of either participation-based or traditional practices. No significant differences were found in the provider's adoption of a participation-based practice due to provider or family characteristics. These findings suggest that professional development activities should clearly articulate the beliefs underlying the practice and address participants' current beliefs and perceptions. Opportunities for providers to examine and, if necessary, reconstruct personal beliefs and perceptions about practices may be necessary for organizations interested in "changing" practices. Also supports Principles 1 and 7.

Dinnebell, L. A., Hale, L., & Rule, S. (1999). Early intervention program practices that support collaboration. *Topics In Early Childhood Special Education, 19*(4), 225-235.  
<http://tec.sagepub.com/content/19/4/225.abstract>

"Effective early intervention services are provided in the context of a collaborative relationship between family members and the professionals with whom they interact." This study investigated what factors, if any, parents and service coordinators could identify that may promote or hinder collaboration. A qualitative analysis of two open-ended survey questions was conducted of 397 parent completed surveys and 226 service coordinator surveys. The investigation revealed a broad range of variables that affected successful collaboration, including the following 5 major categories; a) program philosophy and climate, b) service delivery, c) teaming approaches, d) administrative policies and practices and e) community context. The authors discuss whether successful working relationships between parents and professionals might be an important early intervention outcome measure and the importance of continuing to describe and define what variables contribute to successful collaborations. Also supports Principle 4.

Dunst, C., & Trivette, C. (2009). Let's be PALS: An evidence-based approach to professional development. *Infants & Young Children, 22*(3), 164-176.  
[http://journals.lww.com/iycjournal/Fulltext/2009/07000/Let\\_s\\_Be\\_PALS\\_An\\_Evidence\\_Based\\_Approach\\_to.2.aspx](http://journals.lww.com/iycjournal/Fulltext/2009/07000/Let_s_Be_PALS_An_Evidence_Based_Approach_to.2.aspx)

Providing services to infants and toddlers in natural environments requires a trained workforce that understand both the importance of this mission as well as how to provide supports and resources to assist family members and caregivers to

enhance children's learning and development through everyday learning opportunities. This article provides a description of an adult learning strategy called PALS (Participatory Adult Learning Strategy). The authors provides a brief overview of adult learning theory and methods, a summary of findings from a meta-analysis study of adult learning conducted by one of the authors, a description of key elements of PALS and finally a description of the implication of PALS in professional development. The authors discuss that professional in-service training generally falls along a continuum from 1-time didactic workshops to informal discovery or experiential learning. They conclude that, "*Findings reported in this article point to a middle ground where professional development personnel structure learning opportunities for learners in which learners are actively involved and take responsibility for learning and mastering targeted knowledge and practice.*" PALS was designed to provide this "middle ground" and should be useful for in-service training and other types of instruction. Also supports Principle 2.

Espe-Sherwindt, M. (2008). Family-centered practice: Collaboration, competency, and evidence. *Support for Learning, 23*(3), 136-143.

<http://dx.doi.org/10.1111/j.1467-9604.2008.00384.x>

This article describes the history and research related to family-centered practice. The author provides an excellent overview and description of family-centered practices as well as challenges inherent to providing this approach. For example, she describes how, "*professionals adopting a family-centered approach are asked to replace the role of decision-maker, agenda setter, advice prescriber and expert with the more challenging role of partner, listener, facilitator and consultant.*" While family-centered practice is neither simple nor easy, the author goes on to describe research that indicates how this approach is linked to a wide range of demonstrated benefits for both children and families.

Friend, A., Summers, J., & Turnbull, A. (2009). Impacts of family support in early childhood intervention research. *Education and Training in Developmental Disabilities, 44*(4), 463-470.

<http://daddcec.org/Publications/ETADDJournal/ETDDDetailsPage/tabid/80/ArticleID/462/Impacts-of-Family-Support-in-Early-Childhood-Intervention-Research.aspx>

The underlying premise of Part C of IDEA is to "*enhance the capacity of families to meet the special needs of their infants and toddlers with disabilities.*" This article reviews 26 articles to determine the types of family support reported and evaluated in early childhood. A detailed table is provided that describes the type of family support that was provided, a brief summary of results pertaining to families, and how the types of supports and impacts described link to Early Childhood Outcomes (ECO) outcomes and the family quality of life (FQOL) domains. The authors discuss that a majority of studies reviewed did not clearly define the specific support provided to families. The need to define family support in the early intervention field as well as the need for a family support framework to guide future research to investigate both long-term and short-term outcomes for families is discussed.

Hurtubise, K., & Carpenter, C. (2011). Parents' experiences in role negotiation within an infant services program. *Infants and Young Children 41*(1), 75-86.

[http://journals.lww.com/iyjournal/Abstract/2011/01000/Parents\\_\\_Experiences\\_in\\_Role\\_Negotiation\\_Within\\_an.6.aspx](http://journals.lww.com/iyjournal/Abstract/2011/01000/Parents__Experiences_in_Role_Negotiation_Within_an.6.aspx)

This article describes an exploratory qualitative study examining parent perspectives and experiences of role negotiation between themselves and their early intervention service providers. Eleven parents of young children with disabilities participated. Results indicated that participants recognized the central roles they play in the care of their child and had distinct expectations of professionals. A "symbiotic relationship" is described, that evolves over time but is not based on formalized discussions. One mother describes, "*the therapists have sort of evolved the way I need them to work with my daughter.*" While parents relied on professionals' experience, especially in the early stages of service delivery, professionals also acknowledged their dependence on parents' knowledge and observations of their child. The author concludes that "*This relationship, embedded in a supportive environment, appears to be central to the development of effective parent-professional collaboration, and the key to parent satisfaction with pediatric rehabilitation services.*" Also supports Principle 4.

Kelly, J. F., Zuckerman, T., & Rosenblatt, S. (2008). Promoting first relationships: A relationship-focused early intervention approach. *Infants & Young Children, 21*, 285-205.

[http://journals.lww.com/iyjournal/Abstract/2008/10000/Promoting\\_First\\_Relationships\\_\\_A.4.aspx](http://journals.lww.com/iyjournal/Abstract/2008/10000/Promoting_First_Relationships__A.4.aspx)

"A young children's social-emotional development, a positive sense of self and of others, can only be developed in the context of relationships." This article describes the Promoting First Relationships (PFR) relationship-focused intervention program, and presents results from a study designed to promote the relationship-focused skills of providers serving young children with disabilities and their families. PFR includes a manualized curriculum and training program that provides an

opportunity to gather empirical data on this approach. Results of this study indicated that, although the study was limited (small N, no control), “mothers became significantly more social emotionally growth fostering, more cognitive growth fostering, and more contingent in their interactions with their young children.” The authors hope that the promising results of this study will begin to decrease barriers to relationship-focused interventions. Also supports Principles 1 and 2.

Kelso, G., Fiechtl, B., Olsen, S., & Rule, S. (2009). The feasibility of virtual home visits to provide early intervention: A pilot study. *Infants & Young Children, 22*(4), 332-340.  
[http://journals.lww.com/iyjournal/Abstract/2009/10000/The\\_Feasibility\\_of\\_Virtual\\_Home\\_Visits\\_to\\_Provide.9.aspx](http://journals.lww.com/iyjournal/Abstract/2009/10000/The_Feasibility_of_Virtual_Home_Visits_to_Provide.9.aspx)

Can videoconferencing offer a solution to the cost, travel and parent involvement challenges of current methods for providing Part C services? The authors point out that videoconferencing makes the “hands on” modeling of intervention strategies for parents impossible, and that interventionists must learn and utilize new strategies, such as coaching, to educate parents. Limited information on the efficacy of its use for this purpose is available, although videoconferencing has been used to deliver services such as distance education or telemedicine. This article describes a study utilizing video conferencing with four families receiving early intervention services in a rural program. Satisfaction with this method of delivering services in a child’s natural environment is reported from parents and early interventionists. Implications for early intervention programs are reported in savings in travel time and mileage costs.

Ketelaar, M., Vermeer, A., Helders, P. J. M., & Hart, H. (1998). Parental participation in intervention programs for children with cerebral palsy: A review of research. *Topics in Early Childhood Special Education, 18*(2), 108-117.  
<http://igitur-archive.library.uu.nl/fss/2008-0903-201029/UUindex.html>

This article provides a review of literature from 1980 to 1996 on parent involvement in intervention programs for children with cerebral palsy. Sixteen articles were reviewed that covered 13 different studies, 7 of which were specifically designed to study the effects of parent involvement. These 7 studies, as well as some others, showed a positive effect of parent participation on child-related outcome variables. Implications for practice are discussed, including the importance of identifying the family’s needs and priorities, including parents in goal setting and adapting programs to the family’s capabilities, situation, and daily schedule (not visa versa). The authors conclude with the need for future research on the effects of an active role of parents in intervention programs. Also supports Principle 5.

Kling, A., Campbell, P. H., & Wilcox, J. (2010). Young children with physical disabilities: Caregiver perspectives about assistive technology. *Infants & Young Children, 23*(3), 169-183.  
[http://journals.lww.com/iyjournal/Fulltext/2010/07000/Young\\_Children\\_With\\_Physical\\_Disabilities\\_.2.aspx](http://journals.lww.com/iyjournal/Fulltext/2010/07000/Young_Children_With_Physical_Disabilities_.2.aspx)

Young children with physical disabilities often experience difficulties participating in their daily activities/routines. Adaptive equipment and assistive technology devices can support the child’s participation in their environment, however these types of devices are underutilized with children receiving early intervention services. This study investigates caregiver reports of problematic activities/routines with their young children with physical disabilities and types of assistive technology used as solutions. Caregivers reported that bath time was the most problematic routine with 17.4% of caregivers reporting a problem within this routine. Only a small percent (13.4%) of caregivers reported feeling very competent at using assistive technology and 68.2% of those had received information from an early intervention provider. This research exemplifies the importance of both using assistive technology interventions for children with physical disabilities and ensuring that early intervention providers are sufficiently knowledgeable to train caregivers so that their children gain maximal opportunities to participate and learn. Also supports Principles 2 and 1.

Landry, S. H., Smith, K. E., & Swank, P. R. (2006). Responsive parenting: Establishing early foundations for social, communication, and independent problem-solving skills. *Developmental Psychology, 42*, 627-642.  
[http://www.psy.miami.edu/faculty/dmessenger/c\\_c/rsrscs/rdgs/intervention/landrysmithswank2006.dp.pdf](http://www.psy.miami.edu/faculty/dmessenger/c_c/rsrscs/rdgs/intervention/landrysmithswank2006.dp.pdf)

This experimental study aimed to further understand the influence of responsive parenting on a broad range of infant behavior. A major objective of this study was to provide support for a causal role between changes in maternal responsive behaviors and growth in infant skills. Both target and comparison groups received 10 sessions of home visits, with the target group receiving detailed curriculum linked to four areas of responsiveness (PALS) and the comparison group receiving developmental assessment screening (DAS) and information about developmental skills of their infants. Results indicated that target mothers shifted behaviors believed to be reflective of responsiveness, and growth in the target infant’s skills appeared to mimic this shift. The authors conclude that both programs that target either cognitive or language skills for young children as well as parenting programs that target the emotional nurturance of children’s needs

should incorporate a broader range of parent responsiveness behaviors into parent-infant interactions. Also supports Principles 1 and 2.

Law, M., Darrah, J., Pollock, N., King, G., Rosenbaum, P., Russell, D. (1998). Family-centered functional therapy for children with cerebral palsy: An emerging practice model. *Physical and Occupational Therapy in Pediatrics*, 18(1), 83-102.

[http://informahealthcare.com/doi/abs/10.1080/J006v18n01\\_06](http://informahealthcare.com/doi/abs/10.1080/J006v18n01_06)

This pilot study studied the impact of a family-centered approach to therapy in young children with cerebral palsy. The research team developed a family-centered functional intervention approach using concepts from a systems approach to motor development and a family-centeredness approach. Four clinical principles defined the approach including one related to the importance of intervening during “optimal times” when a child is motivated to try a new task, and that parents are the best people to identify these opportunities, and the importance of practice. “Tasks should be practiced in a variety of environments which facilitate completion of the task and promote flexible use of movement strategies.” The authors discuss that “children receiving intervention in the pilot study made changes in performance that were observable and clinically meaningful over the course of the study period.” Also supports Principle 1.

Mahoney, G. (2009). Relationship focused intervention (RFI): Enhancing the role of parents in children’s developmental intervention. *International Journal of Early Childhood Special Education*, 1, 79-94.

<http://www.int-jecse.net/INT-JECSE-5-ABSTRACT.pdf>

This article describes the relationship-focused approach to intervention and associated research on the approach, that is gaining popularity in early intervention service provision. Relationship Focused Intervention (RFI) focuses on parents as primary interventionists, is based on a parenting model and is related to research on parent-child interaction. The author compares this approach to interventions developed from educational models, such as applied behavioral analysis (ABA). “RFI attempts to enhance the development and social-emotional well being of children by focusing primarily on parents as the agents of intervention, and deemphasizing the direct instructional activities conducted by professionals in clinics or classrooms.” The author shares findings from studies that indicate that improvements in parent responsiveness are “the key to intervention effectiveness, regardless of whether the intervention is based upon the educational model or any other model of child development.” The author concludes that while RFI is an exciting method for providing early intervention, further investigation is needed on the use of RFI in early intervention service delivery settings. Also supports Principles 1 and 2.

Mahoney, G., & Perales, F. (2005). Relationship-focused early intervention with children with pervasive developmental disorders and other disabilities: A comparative study. *Journal of Developmental and Behavioral Pediatrics*, 26(2), 77-85.

[http://msass.case.edu/downloads/cicf/RF\\_and\\_PDD.pdf](http://msass.case.edu/downloads/cicf/RF_and_PDD.pdf)

There is increasing evidence that interventions that focus on supporting parents to become more responsive and encouraging of their child’s development are effective at promoting the cognitive and communication development of their young children. This quasi-experimental study aimed to replicate previous findings that relationship-focused (RF) interventions are effective in promoting developmental functioning of young children with disabilities, and also determine if RF produced comparable effects with children with pervasive developmental disorders (PDD). Results yielded significant findings that support the hypothesis that RF intervention support children’s developmental and social-emotional functioning. Findings challenge beliefs that young children with PDD need highly structured interventions, and suggest that RF interventions can be used effectively with children with PDD. In fact, the authors contend that, “the intervention effects reported in this study are among the strongest short-term effects reported for any developmental intervention to date.” Also supports Principles 1 and 2.

Mahoney, G., Boyce, G., Fewell, R. R., Spiker, D., & Wheeden, C. A. (1998). The relationship of parent-child interaction to the effectiveness of early intervention services for at-risk children and children with disabilities. *Topics in Early Childhood Special Education*, 18, 5-17.

<http://tec.sagepub.com/content/18/1/5.abstract>

This article compares two models of providing early intervention services, a child-focused, directive teaching model versus a relationship-focused model. Relationship focused interventions encourage parents to use responsive interactive strategies during routine events in natural environments to support their child’s development. The authors review 4 studies that shed light on the relative merits of the two models. Findings from the review of these studies indicated that, “the impact of interventions on children’s development was directly related to their effectiveness at supporting and encouraging parents to engage in responsive interactions with their children, regardless of whether this was an intended or

*unintended outcome.*" Findings provided little, if any, support for a child-focused and directive teaching model for providing services to young children with disabilities, or at risk, and their families. Also supports Principle 7.

Mahoney, G., Perales, F., Wiggers, B., & Herman, B. (2006). Responsive teaching: Early intervention for children with Down syndrome and other disabilities. *Down's Syndrome: Research and Practice*, 11, 18-28.  
<http://www.down-syndrome.org/perspectives/311/perspectives-311.pdf>

This article provides a description of the Responsive Teaching (RT) curriculum and empirical foundations for this intervention approach. The authors describe a number of studies conducted on RT, with results indicating that during the early childhood years, parents promote their children's development by engaging in highly engaging interactions throughout routine events. A one-year evaluation of RT showed it to be highly effective in promoting the development of children with developmental delays and autism. While research on the use of RT with children with Down syndrome is limited, the authors conclude that the research findings that led up to the development of RT point to the likelihood that it would also be effective for that population.

O'Neil, M. E., Palisano, R. J., & Westcott, S. L. (2001). Relationship of therapists' attitudes, children's motor ability, and parenting stress to mothers' perceptions of therapists' behaviors during early intervention. *Physical Therapy*, 81(8), 1412-1424.  
<http://ptjournal.apta.org/content/81/8/1412.full.pdf+html>

This study investigated the relationship of therapists' attitudes, children's motor ability, and parenting stress to mothers' perceptions of physical therapists' family-centered behaviors during early intervention. Mothers and therapists showed strong positive perceptions and attitudes toward family-centered behaviors. Hierarchical multiple regression analyses indicated that parenting stress explained a considerable amount of the variance in mothers' perceptions of family-centered behaviors, whereas therapists' attitudes explained a considerable amount of the variance in mothers' perceptions of respectful and supportive care. Children's motor ability was inversely related to parenting stress. In summary, mothers seem to perceive that physical therapists are using family-centered behaviors, while therapists suggest that some early intervention policies may be barriers and prevent them from actualizing attitudes toward family-centered behaviors.

Peterson, C. A., Luze, G. J., Eshbaugh, E. M., Jeon, H., & Kantz, K. R. (2007). Enhancing parent-child interaction through home visiting: Promising practice or unfulfilled promise. *Journal of Early Intervention* 29(2), 119-140.  
<http://jei.sagepub.com/content/29/2/119.abstract>

This evaluation study explored the intervention processes and strategies used by two home visiting programs. One study included 28 families parenting a child with a disability and receiving Part C services, and the second study included 92 families receiving Early Head Start services. Strategies described included coaching and modeling in triadic interactions with parent and child. Interventions varied widely across programs and families. "Minimal time was focused on facilitating parent-child interactions; when these strategies were used, however, mothers were more likely to be engaged in the intervention activities."

Romer, E. F., & Umbreit, J. (1998). The effects of family-centered service coordination: A social validity study. *Journal of Early Intervention*, 21(2), 95-110.  
<http://jei.sagepub.com/content/21/2/95.abstract>

IDEA recommends utilizing a family-centered approach to early intervention services, and key elements and methods for implementing this approach have been defined in the literature. However, the authors of this article discuss that what is lacking are, "data to verify that family-centered services and service coordination is somehow better than other types of service the family has received." This article describes a multiple baseline study to determine if a family's level of satisfaction improves when family-centered coordination procedures are implemented. Participants included 3 service coordinators and 9 families receiving Part C early intervention services. Results clearly indicated that when service coordinators implemented a family-centered model, families reported high levels of satisfaction and low levels of dissatisfaction. In contrast, if a family-centered approach was not implemented, families reported low satisfaction and a high degree of dissatisfaction. The authors discuss the need for considerable further research, including replication studies on these findings and the social validity of best practice in early intervention.



Salisbury, C. L., 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.

<http://tec.sagepub.com/content/30/3/132.full.pdf+html>

This article describes a study that examined the perspectives and experiences of six early intervention providers as they adopted and implemented a collaborative consultation approach to home visiting in urban neighborhoods in Chicago. Survey, semi structured interview, and focus group methods were used over a 2-year period to obtain data about provider perspectives about the home visiting approach and their experiences implementing this approach with parents of infants and toddlers receiving Part C services. Provider's concerns about the use of collaborative consultation and family-centered home visiting practices improved at posttest. Providers attributed the changes in large part to the culture of the organization as a learning community and its ongoing administrative support for reflective problem solving about implementation issues. Providers also identified specific factors, such as time and practice and problem solving with feedback, as having an impact on their ability to move forward in adopting family-centered home visiting practices. Challenges were identified related to home visiting generally, and a collaborative consultative approach specifically, in complex urban family settings. Implications for research and practice are discussed. Also supports Principles 2 and 1.

Shannon, P. (2004). Barriers to family-centered services for infants and toddlers with developmental delays. *Social Work, 49*(2), 301-308.

<http://sw.oxfordjournals.org/content/49/2/301.abstract>

Providing family-centered services is considered best practices in early intervention and is emphasized in Part C of IDEA, however barriers have existed to fully implementing this practice in service provision. This article describes a qualitative study that examined the perception of these barriers with 22 family members and 20 services providers (including social workers, therapists, educators, service coordinators and medical providers). Perceived barriers to providing family-centered practices included confusion over the Part C services delivery system (including funding streams), the impact of non-part C providers (e.g., child welfare, insurance companies), and family characteristics such as motivation or persistence. The article includes a section on strategies participants suggested for empowering families to take a more active role on early intervention teams. The author concludes that social workers play an important role with families supporting, advocating and assisting families coordinate the complex array of services they will encounter in early intervention.

Wallace, K. S., & Rogers, S. J. (2010). Intervening in Infancy: Implications for Autism Spectrum Disorders. *Journal of Child Psychology and Psychiatry, 51*(12), 1300-1320.

<http://dx.doi.org/10.1111/j.1469-7610.2010.02308.x>

While early identification efforts for children under the age of three with autism spectrum disorders (ASD) are on the rise, there is a "scarcity of empirically validated treatments" and a "scarcity of empirical investigation into successful intervention characteristics" for this population. This article describes a review of 32 controlled, high-quality experimental studies working with infants and toddlers with non-autism developmental disorders or at-risk for such delays that was conducted to create an evidence-based foundation for building ASD interventions for infants and toddlers. A table provides a summary of the intervention studies reviewed. Four specific intervention procedures were revealed as being the most efficacious, one being "parent involvement in intervention, including on-going parent coaching that focused both on parental responsibility and sensitivity to child cues and on teaching families to provide the infant interventions." Other key interventions included individualization, a focus on broad learning targets and the provision of early, intense interventions for a long duration. Implications for research in infant and toddler interventions for ASD are discussed. Also supports Principle 4.

Warren, S.F., Brady, N.C., Sterling, A.M., Fleming, K., & Marquis, J. (2010). Maternal responsivity predicts language development in children with fragile X syndrome. *American Journal on Intellectual and Developmental Disabilities, 115*(1), 63-84.

<http://aaidjournals.org/doi/abs/10.1352/1944-7558-115.1.54>

This study investigated the relationship between maternal responsivity and later communication and language development in children with fragile X syndrome. Participants included 55 children with fragile X syndrome between the ages of 11 months and 48 months and their biological mothers. Videotaped interactions were collected at three assessment points over a 36-month period, and coded along maternal responsivity and child communication measures. Results indicate that early maternal responsivity predicts the level of four important child language outcomes and demonstrates how parenting style can influence the development of important skills in children with this genetic disorder. The authors conclude that intervention efforts should begin early in life to assure that parents and caregivers engage in this type of responsive parenting with their young children. Also supports Principles 7 and 2.

Woods, J., Kashinath, S, & Goldstein, H. (2004). Effects of embedding caregiver-implemented teaching strategies in daily routines on children's communication outcomes. *Journal of Early Intervention, 26*(3), 175-193.

[http://fgrbi.fsu.edu/PowerPoint\\_Files/articles/JEI\\_2004.pdf](http://fgrbi.fsu.edu/PowerPoint_Files/articles/JEI_2004.pdf)

This single-subject study examined the effect of teaching caregivers naturalistic language interventions during routine events to facilitate child communication outcomes. Results of the study indicated that all caregivers increased their use of teaching strategies during identified routines, and all 4 children with identified developmental delays showed gains in targeted communication objectives during intervention sessions. However, caregivers were not shown to generalize the use of these interventions to other routine settings in 3 out of the 4 dyads. The authors discuss the need for further research on the issue of generalization, but conclude that, "the success of implementing this approach with caregivers in daily routines within the homes suggests that it could serve as a means of meeting the spirit of natural environments legislation."

#### Key Principle 4

The early intervention process, from initial contacts through transition, must be dynamic and individualized to reflect the child's and family members' preferences, learning styles and cultural beliefs.

Crais, E., Roy, V., & Free, K. (2006). Parents' and professionals' perceptions of the implementation of family-centered practices in child assessments. *American Journal of Speech-Language Pathology, 15*(4), 365-377.

<http://ajslp.asha.org/cgi/content/abstract/15/4/365>

This study examined the degree to which early intervention professionals and parents agreed on whether specific family-centered practices were implemented during child assessments. The authors discuss the importance of family-centered practices and provide an overview of research on the topic. In this study, 134 early intervention professionals and 68 family members with upcoming child assessments were recruited from 3 early intervention agencies in North Carolina. Upon completion of a child's assessment, professionals and parents were asked which (of 41 identified) family-centered practices were implemented in the process, and which practices were considered ideal and to include in child assessments. Results indicated that many family-centered practices were implemented during assessments, and that both parents and professionals agreed on practices that should be changed in future assessments. The authors discuss future directions, including the need for more research on the difference of perceptions that might occur between professionals and parents who come from different cultural, linguistic or ethnic backgrounds.

DeGangi, G. A., Wietlisbach, S., Poisson, S., Stein, E., & Royeen, C. (1994). The impact of culture and socioeconomic status on family-professional collaboration: Challenges and solutions. *Topics in Early Childhood Special Education, 14*, 503-520.

<http://tec.sagepub.com/content/14/4/503.short>

This article describes a qualitative study of how early intervention service providers perceive the effects of cultural diversity and SES on family-professional collaboration. Twenty-six professionals from early intervention programs in the Washington DC metropolitan area and the states of Maryland and Virginia participated in interviews about the IFSP process. Results indicate that most professionals (24 of 26) reported that SES and culture were important variables that impact the IFSP process although there was considerable variability in how they perceived the impact of these variables. Results of the qualitative analysis are described in terms of the impact of culture and SES on the IFSP process, challenges encountered and challenging family situations. The authors conclude that professionals should conduct a self assessment to examine attitudes and beliefs about culture and SES and that it may be useful to use case vignettes as a strategy for training professionals on these issues. Also supports Principle 5.

Kalyanpur, M. (1998). The challenge of cultural blindness: Implications for family-focused service delivery. *Journal of Child and Family Studies*, 7(3), 317-332.

<http://www.springerlink.com/content/h5tl1630h7601n76/>

This article describes a qualitative study that involved participant observations and in-depth interviewing. The author observed 9 Native American mothers in a parent group and interviewed 3 mothers and 3 professionals. The author discusses that current professional practices assume that child development and developmental psychology are universally applicable and that behaviors considered normative by the mainstream are standards of behavior for all other groups. Results of this study indicated that the assumption of “universal applicability” tends to adversely affect parent-professional interactions. The author concludes that, “when professionals are unaware of the cultural specificity of their professional knowledge, they may mistake cultural differences for deficits” and that professionals must commit to developing awareness of the cultural underpinnings of their own practices. Also supports Principles 5 and 7.

Keilty, B., LaRocco, D., & Casell, F. (2009). Early interventionists’ reports of authentic assessment methods through focus group research. *Topics in Early Childhood Special Education*, 28(4), 244-266.

<http://tec.sagepub.com/content/28/4/244.abstract>

Although authentic assessment methods have been found to facilitate eligibility determination, support goal development and program planning, and are widely recommended and considered best practices—they are still not used consistently in the field of early intervention. This article reports findings of a qualitative, focus group design study whose purpose is to “understand the professional development and early intervention system needs to use authentic assessment strategies.” Interviews conducted indicated that early intervention providers found it easier to apply authentic assessment methods during on-going progress monitoring and most difficult to incorporate during eligibility evaluations. Barriers to using authentic assessment methods as well as facilitators were explored with participants. Implications for professional development systems and early intervention leadership are discussed. Also supports Principles 5 and 7.

Kochanek, T. T., & Buka, S. L. (1998). Influential factors in the utilization of early intervention services. *Journal of Early Intervention*, 21(4), 323-338.

<http://jei.sagepub.com/content/21/4/323.full.pdf+html>

The article describes a study to determine the utilization rates of Part C services, whether child or family characteristics influenced utilization rates and how similarities between providers and mothers of children enrolled in Part C services impacted utilization rates. Across a 4-month period, the scheduled services of 146 infants and toddlers studied indicated that utilization rates of services were quite high (69%), which is in contrast to reported underutilization of other entitlement programs. Individual characteristics of children and families did not appear to impact service utilization, whereas the characteristics of the provider seemed to have more significant of an impact on utilization rates. Findings indicated that providers who were younger and close in age to mothers evidenced significantly higher utilization rates and families in which therapists served as primary service providers had the lowest utilization rates. The authors conclude that the assignment of a primary service provider appears to be a critical event, and that identification of significant provider demographics is an important beginning to understanding the formation of relationships between providers and parents. Also supports Principle 6.

Korfmacher, J., Green, B., Saerker, F., Peterson, C., Cook, G., Roggman, L. (2008). Parent involvement in early childhood home visiting. *Child & Youth Care Forum*, 37(4), 171-196.

<http://www.springerlink.com/content/g17lp9743u574631/fulltext.html>

Early intervention services are frequently provided in the child’s home environment, where service providers can best support a child’s participation in everyday experiences and interactions with familiar people. Increasing a parent’s involvement in services requires, however, not only providing services in the home but also utilizing a dynamic, individualized, family-centered approach. This article provides an overview of an important aspect of early childhood home visiting research: understanding how parents are involved in program services and activities. The authors describe both participation levels (quantity) as well engagement in services (quality) factors. The authors discuss how, “it may be tempting to assume that parents who do not connect with a no-cost program staffed by dedicated home visitors are resistant, difficult to work with, or too disorganized to make use of a valuable service. Programs need to recognize, however, that the most dedicated families will not be involved in services that are unresponsive to their needs, beliefs, and interests.” Research that includes examination of parent involvement is reviewed, including examples from the Early Head Start Research and Evaluation Project. Also supports Principles 1 and 2

Macy, M., Thorndike-Christ, T., & Lin, Yu-Chu. (2010). Parental reports of perceived assessment utility: A comparison of authentic and conventional approaches. *Infants & Young Children, 23*(4), 286-302.  
[http://journals.lww.com/iyjournal/Abstract/2010/10000/Parental\\_Reports\\_of\\_Perceived\\_Assessment\\_Utility\\_5.aspx](http://journals.lww.com/iyjournal/Abstract/2010/10000/Parental_Reports_of_Perceived_Assessment_Utility_5.aspx)

*"Parents/caregivers must feel respected, comfortable, and informed about the assessment and evaluation process."* This study examined parent reports of 2 different approaches (i.e. authentic and conventional) that are used for early intervention eligibility. While conventional approaches to assessment *"require administrators to follow strict standardization procedures"*, in contrast authentic approaches *"allow children to participate in assessment activities in a familiar environment..."* as well as...*"with sensitivity to children's interests and motivations."* The study examined parent satisfaction with authentic versus conventional assessment processes, and whether a child's eligibility status or the setting the assessment was conducted (i.e., home, clinic or both) impacted the parent's perceptions of authentic and conventional assessments. While parents rated both types of assessment as "enjoyable", results indicated that parents, regardless of the eligibility status of their child, were significantly more satisfied with the appropriateness and familiarity of activities used during the authentic assessment process. The authors discuss benefits to using an authentic approach to assessment and conclude that improving way to conduct authentic assessments for eligibility determination is important to better serve children and families. Also supports Principle 5.

Pang, Y. (2010). Selecting appropriate assessment instruments to ensure quality transition services. *Early Childhood Education Journal, 38*(1), 43-48.  
<http://www.springerlink.com/content/kk2l340t67p2q121/fulltext.pdf>

Transition from early intervention to early childhood special education services is a critical event that not only brings opportunities but also presents challenges to children and their families. This article describes a study that was conducted to review and compare possible transition instruments as well as to describe how to involve families in the transition process in a way that ensures a successful transition for young children. The author reviewed both standardized and non-standardized transition assessment instruments and concluded that, *"although standardized transition-related assessment instruments are more likely to offer reliability and validity data, they cannot capture family perceptions of the transition process."* In comparison, *"non-standardized instruments can capture perceptions of the transition process but seldom offer estimates of reliability and validity."* The author concludes that combining both of these assessment methods and working in collaboration with families may ultimately result in *"relieving families from stress and anxiety that they otherwise might have experienced during transition."*

Puig, V. (2010). Are early intervention services placing home languages and cultures "at risk"? *Early Childhood Research & Practice, 12*(1).  
<http://ecrp.uiuc.edu/v12n1/puig.html>

According to the 2000 census, more than one in four school age children live in households where a language other than English is spoken. This position statement discusses the vital importance of practitioners supporting a child's home language while acknowledging that this is *"particularly complex when working with young children with special needs and their families."* The author discusses that while EI providers recognize the importance of assessing a child using their home language, they are not necessarily prepared (or mandated) to provide services in a child's home language. The author examines beliefs about early exposure to a second language, and reviews literature and provides case studies related to perceived benefits and challenges. The article explores the ways that EI programs may be placing home languages and cultures "at risk" and discusses the importance of identifying and integrating home cultures and languages, in the provision of family-centered services.

Raspa, M., Hebbeler, K., Bailey, D., & Scarborough, A. (2010). Service provider combinations and the delivery of early intervention services to children and families. *Infants & Young Children, 23*(2), 132-144.  
[http://journals.lww.com/iyjournal/Abstract/2010/04000/Service\\_Provider\\_Combinations\\_and\\_the\\_Delivery\\_of\\_7.aspx](http://journals.lww.com/iyjournal/Abstract/2010/04000/Service_Provider_Combinations_and_the_Delivery_of_7.aspx)

While a handful of studies have documented features of early intervention service delivery, such as the location, frequency or intensity of services, the authors of this article discuss the need to develop a "common language for describing service delivery." Using data from the National Early Intervention Longitudinal Study, this study provides a framework for characterizing the delivery of early intervention services based on the combinations of service providers who work with infants and toddlers with disabilities and their families. Expected differences were found between groups on the basis of age at entry, eligibility category, and intensity of services. Variations were found based on ethnicity, income and maternal education, suggesting that services may not always be provided on the basis of child or family need. For example, higher

percentages of white children were working with the speech-language pathologist group when compared with African American or Hispanic children.

Sylva, J. (2006). Issues in early intervention: The impact of cultural diversity on service delivery in natural environments. *Multicultural Education*, 13(2), 26-29.

<http://www.eric.ed.gov/PDFS/EJ759619.pdf>

This article provides an overview of literature related to natural environments and family centered practices. The author also explores the influence on cultural diversity as it relates to service provision, attempting to link the research to effective, appropriate early intervention services. The author asks, "How does one determine what constitutes the natural environment as a context for early intervention service delivery for students living in culturally diverse families and communities?" The author concludes that there needs to be a definition for natural environments that includes the philosophy of family-centered practices, including a consideration of family variables such as cultural diversity. In addition, she concludes that the "research underlying appropriate practices for serving diverse families needs additional study and validation" and that institutions need to better prepare students to understand these issues.

Wall, S., Taylor, N., Liebow, H., Sabatino, C., Mayer, L., Farber, M., & Timberlake, E. (2006). Early head start and access to early intervention services: A qualitative investigation. *Topics in Early Childhood Special Education*, 25(4), 218-231.

<http://tec.sagepub.com/content/25/4/218.abstract>

"Although children in poverty are at elevated risk for disabilities or developmental delays, they are much less likely to receive early intervention services than are children from more affluent families." This qualitative study of 32 low-income families with infants or toddlers with developmental delays or disabilities examines whether participation in Early Head Start (EHS) program increased the likelihood that the families would pursue early intervention services. The authors found that the EHS families obtained early intervention services at higher rates than the control families. Case studies illustrate how EHS staff developed individualized strategies to help the families obtain early intervention services.

Zhang, C., & Bennett, T. (2003). Facilitating the Meaningful Participation of Culturally and Linguistically Diverse Families in the IFSP and IEP Process. *Focus on Autism and Other Developmental Disabilities*, 18(1), 51-59.

<http://foa.sagepub.com/content/18/1/51.abstract>

"A child who is poor, living in a rural area, disabled, and a member of a diverse cultural and linguistic group may have a much greater risk for under or nonuse of early intervention services." This article reviews literature on the participation of culturally and linguistically diverse (CLD) families in the special education process, barriers to family participation and strategies for facilitating family participation. A table is provided that includes specific strategies to facilitate the family's participation in special education, including critical steps to consider when preparing CLD families for the IFSP or IEP process. In discussing goal development that is considerate of the family's language and culture, the authors state that, "through honest and open dialogue with families, professionals can compare their differing beliefs and develop goals by building on family characteristics, beliefs, and strengths rather than setting goals derived from values that may be strange to the families served." Also supports Principle 5.

## Key Principle 5

IFSP outcomes must be functional and based on children's and families' needs and family-identified priorities.

Bagnato, S. (2006). The authentic alternative for assessment in early intervention: An emerging evidence-based practice. *Journal of Early Intervention*, 28(1), 17-22.

<http://jei.sagepub.com/content/28/1/17.abstract>

In this article the author describes the history of measurement in early childhood over the last 40 years, and the wealth of accumulating evidence that points to the importance of utilizing authentic assessment methods in the evaluation and assessment of young children. The author comments that "testing of infants, toddlers, and preschoolers by strange adults, in unnatural places, at tables with flip cards and small, unmotivating toys does not make much sense." The article reviews a recent study by Macy et. al (2006) validating the use of authentic assessment in eligibility evaluations, and cites a number of notable studies conducted in the past decade that form the emerging evidence-base for utilizing authentic, curriculum based assessments in early intervention. Also supports Principle 4.

Farrell, A. (2009). Validating family-centeredness in early intervention evaluation reports. *Infants & Young Children*, 22(4), 238-262.

[http://journals.lww.com/iyjournal/Abstract/2009/10000/Validating\\_Family\\_Centeredness\\_in\\_Early.2.aspx](http://journals.lww.com/iyjournal/Abstract/2009/10000/Validating_Family_Centeredness_in_Early.2.aspx)

“Evaluation serves as a universal gateway and a pivotal opportunity to shape family expectations.” This article describes an internet-based study that manipulated the family-centeredness in written early intervention evaluation reports and then had participants (i.e., parents, professionals, or parent-professionals) consider the evaluation reports across variables such as accessibility and rate the reports as having high family centeredness (HFC) or low family centeredness (LFC). One important finding indicated that the language of the evaluation report can affect how parents and professionals perceive children, with evaluation reports with low family-centeredness passages contributing to perceptions of higher impairment in the child. Important implications for how LFC evaluations may influence the shaping of the IFSP, and ultimately the parents’ tendency to accept more invasive interventions (as opposed to family-centered services) are discussed. Also supports Principle 4.

Jung, L. (2010). Can embedding prompts in the IFSP form improve the quality of IFSPs developed? *Journal of Early Intervention*, 32(3), 200-213.

<http://dx.doi.org/10.1177/1063816110380062>

Infants and toddlers learn best through everyday experiences and interactions with familiar people in familiar contexts. A child’s individualized family service plan (IFSP) should include outcomes that are incorporated into routine events, and are driven by the families’ needs and family-identified priorities. This article describes a study conducted to determine if the quality of IFSP’s changed following a relatively low-cost strategy of including prompts to the IFSP form and instruction manual in the areas of; a) recording family routines, b) recording families’ priorities for emotional, material and informational support and c) connecting routines and priorities to outcomes and procedures. Pre/post IFSPs were collected from 94 family service coordinators, and rated using the IFSP Rating Scale (McWilliam & Jung, 2001). Results showed statistically significant improvement in 7 of 12 indicators of IFSP quality. The results indicate that “adding targeted prompts to the IFSP form may be an effective, low-cost strategy for improving some portions of service planning” however some practices that involve a deeper understanding of family-centered supports were not as effectively changed. Also supports Principles 1 and 3.

Jung, L. (2010). Can embedding prompts in the IFSP form improve the quality of IFSPs developed? *Journal of Early Intervention*, 32(3), 200-213.

<http://dx.doi.org/10.1177/1063816110380062>

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McWilliam, R. A., Ferguson, A., Harbin, G. L., Porter, P., Munn, D., & Vandiviere, P. (1998). The family-centeredness of individualized family service plans. *Topics in Early Childhood Special Education*, 18, 69-82.

<http://tec.sagepub.com/content/18/2/69.abstract>

The study described in this article is based on the following assumptions; the IFSP is a document for the family as well as professionals, should reflect what they family wants, should reflect recommended practices and finally, should be a useful document for families and service providers. The two purposes of this study include assessing the validity of a rating scale to determine the family-centeredness of IFSP’s and to describe IFSP’s from several types of agencies in North Carolina. Results indicated that the IFSP *Family Centeredness Rating Scale* does provide a useful measure of the quality of IFSPs. Of the 100 IFSP’s reviewed, results indicated that goals were still overwhelmingly child related as opposed to family-related. Also supports Principle 4.

McWilliam, R., Casey, A., & Sims, J. (2009). The routines-based interview: A method for gathering information and assessing needs. *Infants & Young Children*, 22(3), 224-233.

[http://journals.lww.com/iyjournal/Abstract/2009/07000/The\\_Routines\\_Based\\_Interview\\_\\_A\\_Method\\_for.7.aspx](http://journals.lww.com/iyjournal/Abstract/2009/07000/The_Routines_Based_Interview__A_Method_for.7.aspx)

Gathering information from families about routines, activities and events in a child and family's life can be done utilizing a variety of formal and informal methods. The routines-based interview (RBI; R. A. McWilliam, 1992, 2006a) is a promising method for gathering this information. "The purpose of structuring the interview around family routines is to identify what the family already does and what the family wants to do (i.e., family outcome settings)." This method of gathering information from a parent or caregiver does require a skilled interviewer, indicators of which are also discussed in this article. This article describes the process of conducting the RBI as well as findings from a preliminary study that showed that an RBI approach produced better outcomes than a traditional approach to IFSP development. The discussion contains plans for further research and implementation fidelity criteria. Also supports Principle 4.

Polmanteer, K., & Turbiville, V. (2000). Family-responsive individualized family service plans for speech-language pathologists. *Language, Speech, and Hearing Services in Schools, 31*(1), 4-14.

<http://lshss.asha.org/cgi/content/abstract/31/1/4>

This article describes recommended practices developed by the Division for Early Childhood of the Council for Exceptional Children for the development of the IFSP that reflects family-centered practices. The article also provides a summary of recent research examining their use in Kansas as an example of how they can be used as a component of program review. The authors also provide suggestions of how speech-language pathologists can apply recommended practices in developing family-centered IFSPs for young children with speech and/or language disabilities.

Ridgley, R., & Hallam, R. (2006). Examining the IFSPs of rural, low-income families: Are they reflective of family concerns? *Journal of Research in Childhood Education, 21*(2).

<http://www.tandfonline.com/doi/abs/10.1080/02568540609594585>

Individualized family service plan (IFSP) outcomes should be functional and based on children's and families' needs and family identified priorities. This article describes a qualitative study with a purpose of determining if the early intervention system was addressing the needs and concerns of rural, low-income families. The study involved interviewing 6 families about their concerns, as well as collecting data from their IFSPs to see if their concerns were addressed and targeted in their IFSPs. Results indicated that while families identified a variety of concerns related to parenting a child with a disability, child health and family issues, the IFSPs reviewed primarily addressed concerns related to parenting a child with a disability. The authors conclude that, "parents need to be aware of the possibility for early intervention service providers to assist with other needs and concerns, in addition to the developmental needs of the child or issues related solely to parenting a child with a disability." The need for additional research in this area, including research on how in-service training programs are preparing providers to address a range of concerns when writing IFSPs.

## Key Principle 6

The family's priorities, needs and interests are addressed most appropriately by a primary provider who represents and receives team and community support.

Bell, S.T. (2004) *Setting the stage for effective teams: A meta-analysis of team design variable and team effectiveness*. Unpublished doctoral dissertation, Texas A&M, University College Station, TX.

<http://repository.tamu.edu/handle/1969.1/1110?show=full>

Abundant research exists on the effectiveness of teams across a variety of contexts; education, early childhood, health care, business, and industry. In a meta-analysis of the teaming literature, Suzanne Bell (2004) reported that specific task and structure factors exist that enhance effective delivery of services when teams are used. Every task and structure factor directly applies to the use of teams in early intervention...particularly those that use a primary service provider approach.

Brotherson, M. J., & Goldstein, B. L. (1992). Time as a resource and constraint for parents of young children with disabilities: Implications for early intervention services. *Topics in Early Childhood Special Education, 12*, 508-527.

<http://tec.sagepub.com/content/12/4/508.abstract>

This qualitative study of 21 family members and 19 professionals explores how parents and professionals understand time usage as a resource or constraint for families with young children with disabilities. Findings identified time as critical by both parents and professionals, both as a resource and a constraint. Four supports were identified for parents' use of time including; 1) fitting therapy and education activities into the family's routines and environment, 2) listening to what

parents know about their child and family, 3) use technology for therapy and education activities and 4) provide time and consistency to develop trust and relationships with professionals. Constraints on parents' time included issues such as a lack of coordination among professionals and parents feeling overwhelmed with therapy and education activities. One mother discusses how all the professionals working with her child suggested she practice various therapies at home and stated that, "One day I added up the hours. Well, it was 29 hours a day I was supposed to be doing some therapy with Beverly." A significant difference between how professionals and parents view time is discussed, with parents viewing time as daily routines, and caregiving as ongoing and lifelong; whereas professionals view time as short term or therapeutic contact. Implications for intervention, training and future research are discussed. Also supports Principle 2.

Dunst, C., Hamby, D., & Brookfield, J. (2007). Modeling the effects of early childhood intervention variables on parent and family well-being. *Journal of Applied Quantitative Methods*, 2(3), 268-288.

[http://jaqm.ro/issues/volume-2,issue-3/1\\_ModelingtheEffects.php](http://jaqm.ro/issues/volume-2,issue-3/1_ModelingtheEffects.php)

This study examined the effects of a variety of personal (i.e., family) variables and early intervention variables on parent and family well-being. A sample of two hundred and fifty parents involved in birth to three programs was studied using structural equation modeling (SEM) to evaluate the effect of family, child, early intervention processes and structural variables on parent and family well-being. Results included a confirmation of previous research that demonstrated that frequent contact by professionals is related to parents' judgments about family centeredness and that, "*it is not contact (hours) per se that influenced perceived control, but rather how practitioners interacted with parents that accounts for a greater sense of control.*" Results also indicated that, "*the intensity of services provided to a child attenuated parents' judgments of parent and family well-being.*" These results reinforce the importance of not overwhelming families with professionals and appointments, but that by utilizing approaches such as a primary provider to address family's priorities, needs and interests, service providers may increase a sense of control and well-being for parents and families.

King, G., Strachan, D., & Tucker, M. (2009). The application of a transdisciplinary model for early intervention services. *Infants & Young Children*, 22(3), 211-223.

[http://journals.lww.com/iycjournal/Fulltext/2009/07000/The\\_Application\\_of\\_a\\_Transdisciplinary\\_Model\\_for.6.aspx](http://journals.lww.com/iycjournal/Fulltext/2009/07000/The_Application_of_a_Transdisciplinary_Model_for.6.aspx)

This article reviews the literature on utilizing a "transdisciplinary model" for providing early intervention services in natural environments, a model which utilizes a primary provider to provide the majority of services to families, while receiving support from team members and the community. Operational features of a transdisciplinary model are proposed, including the use of arena assessments, the presence of intensive, ongoing interaction among team members from different disciplines, and finally the practice of role release, where team members "release" intervention strategies from their disciplines. A practice model describing the implementation of the approach is then presented, based on the experiences of staff members in a home-visiting program for infants that has been in existence for over 30 years. The benefits and challenges experienced by therapists and managers of the program are considered, along with the unique aspects of the program and implications for program management. The managerial and team resources required to successfully implement a transdisciplinary model are high, but the potential payoffs for children, families, and therapists' development of expertise are considerable.

Linder, T., & Linas, K. (2009). A functional holistic approach to developmental assessment through play: The transdisciplinary play-based assessment. *Zero to Three*, 30(1), 28-33.

[http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?\\_nfpb=true&\\_ERICExtSearch\\_SearchValue\\_0=EJ867208&ERICExtSearch\\_SearchType\\_0=no&accno=EJ867208](http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=EJ867208&ERICExtSearch_SearchType_0=no&accno=EJ867208)

Traditional multidisciplinary assessment processes involve individual professionals conducting separate evaluations on a child and targeting discipline specific goals. Transdisciplinary assessment processes "*recognizes the dynamic interplay across developmental domains, and consequently team members assess the child together.*" This article describes the Transdisciplinary Play-Based Assessment, Second Edition, a play based assessment that provides an authentic, family-centered approach to assessing a young child's development in natural environments. The article discusses the research base on play-based assessment that validates the use of this approach and confirms the limitations of standardized testing with very young children. The author concludes with acknowledging current challenges with using play-based approach for purposes such as early intervention evaluation (e.g., difficult to receive funding from medical insurance companies for each of the professionals involved in the team assessment process). However, the need for authentic assessment, meaningful family involvement and relationship-based and routines based intervention ultimately points to the need for assessment approaches that reflect these values. Also supports Principles 1 and 4.



Rush, D. D., Shelden, M. L., & Hanft, B. E. (2003). Coaching families and colleagues a process for collaboration in natural settings. *Infants & Young Children, 16*(1), 33-47.

[http://journals.lww.com/iyjournal/Abstract/2003/01000/Coaching\\_Families\\_and\\_Colleagues\\_\\_A\\_Process\\_for.5.aspx](http://journals.lww.com/iyjournal/Abstract/2003/01000/Coaching_Families_and_Colleagues__A_Process_for.5.aspx)

Providing early intervention services in natural environments has required the field to rethink both how services are provided and what the role of professionals is when providing services in home and community settings. This article discusses the need to “reconceptualize the role of the early interventionist as a coach and collaborative partner working alongside family members/care providers.” Literature that supports positive outcomes associated with utilizing a coaching model is presented. Specific guiding principles, key elements and the process of coaching are clearly defined. A table provides details of coaching tasks and questions that should occur during the process of coaching to support learners (i.e., family members/care providers) to facilitate positive outcomes for children. Also supports Principles 3 and 2.

Shonkoff, J. P., Hauser-Cram, P., Krauss, M. W., & Upshur, C. C. (1992). Development of infants with disabilities and their families: Implications for theory and service delivery. *Monographs of the Society for Research in Child Development, 57*(6, Serial No. 230)

<http://www.eric.ed.gov/ERICWebPortal/detail?accno=EJ456317>

This longitudinal study involved 190 infants and their families after the child had received 1 year of early intervention services. Results indicated that those families receiving their services from a single provider as compared to families receiving services from multiple providers reported less parenting stress. Additionally, the developmental outcomes for the infants of the families receiving services from a single provider were better than when the infant was receiving multidisciplinary services. These results persisted when the study controlled for the severity of disability of the child, the age of the child, and when both factors were controlled simultaneously. The only benefit actualized for the families of the children receiving services from multiple providers was an increase in the size of the mother’s social support network. No differences were noted, however, in the mothers’ reports of the helpfulness of their social support networks. Also supports Principle 1.

Sloper, P, & Turner, S. (1992). Service needs of children with severe physical disability. *Child: Care, Health and Development, 18*(5), 259-28.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2214.1992.tb00359.x/abstract>

A review of the literature determined that those families with multiple providers experienced increased parental stress, unmet needs, and confusion. What might come as a surprise to many practitioners is the finding that having multiple providers resulted in unmet needs for a significant number of families and most of the families were of children with severe disabilities. This seems contrary to the commonly held belief that the needs of a child with severe disabilities cannot possibly be met by a primary service provider. In several studies reviewed, parents of children with disabilities reported confusion when multiple providers were involved on a regular basis. This confusion resulted from conflicting information and recommendations regarding intervention and resources. Parents were also confused about which practitioner to access regarding specific questions or supports needed. For example, it might be clear with the professionals working with the family who addresses what issues, but parents reported ongoing struggles with the role definitions when multiple providers were involved. Also supports Principle 3.

## Key Principle 7

Interventions with young children and family members must be based on explicit principles, validated practices, best available research, and relevant laws and regulations.

Brook, L., Sawyer, E., & Campbell, P. (2009). Beliefs about participation-based practices in early intervention. *Journal of Early Intervention, 31*, 326-343.

<http://jei.sagepub.com/content/31/4/326.full.pdf+html>

Although interventionists’ beliefs about participation-based practices have been reported, researchers have shown that practitioners do not necessarily conduct their day-to-day practices in a manner that reflects those beliefs. This article describes a study that examined respondents’ beliefs about participation-based services and eight other early intervention practices. Respondents included 211 Practitioners, 142 Pre-service students and 16 Higher Education “experts.” “Other” early intervention strategies are defined as predominately directed by practitioners to children and do not consistently embed interventions into natural environments. Two main findings emerged from our study: (a) All participants were more

positively inclined toward the eight early intervention practices than with 12 participation-based practices, and (b) practitioners' beliefs were more similar to higher education exemplar sort than are students.

Campbell, P., & Sawyer, L. (2009). Changing early intervention providers' home visiting skills through participation in professional development. *Topics in Early Childhood Special Education, 28*, 219-234.  
<http://tec.sagepub.com/content/28/4/219.abstract>

Many recent studies have indicated that providers continue to utilize a traditional, child-directed approach to providing early intervention services rather than the recommended participation-based (i.e., family-centered) approach. This article describes a study of a group of EI providers (e.g., teachers and therapists) who participated in professional development activities focused on utilizing participation-based services in their work with families. More than half (60%) of the providers demonstrated participation-based practice at the completion of the training, while for the remainder (40%) professional development activities were insufficient to support practice change. Provider beliefs and perceptions aligned with their use of either participation-based or traditional practices. No significant differences were found in the provider's adoption of a participation-based practice due to provider or family characteristics. These findings suggest that professional development activities should clearly articulate the beliefs underlying the practice and address participants' current beliefs and perceptions. Opportunities for providers to examine and, if necessary, reconstruct personal beliefs and perceptions about practices may be necessary for organizations interested in "changing" practices. Also supports Principle 2.

McWilliam, R. A. (1999). Controversial practices: The need for a reacculturation of early intervention fields. *Topics in Early Childhood Special Education, 19*, 189-193.  
<http://www.questia.com/googleScholar.qst?docId=5001821279>

This article is intended to raise awareness regarding a number of "controversial practices" in early intervention and present issues for further debate within the field. The author discusses the impact on families when presented with these practices, given the debate among professionals about the effectiveness of a given practice, and the lack of well designed research studies to support the claims of practice advocates. Five recommendations are provided regarding controversial practices including the need to evaluate and summarize research, conduct comparative research, legislate practice guidelines, prepare expert witnesses and re-acculturate the field about the role of specialists in early intervention service provision.

Odom, S. L., & Wolery, M. (2003). A unified theory of practice in early intervention/early childhood special education: Evidence-based practices. *Journal of Special Education, 37*, 164-173.  
<http://sed.sagepub.com/content/37/3/164.full.pdf>

Based on education and psychological theories, the authors propose that a unified theory of EI/ECSE practice has developed over time related to providing services to infant and young children with disabilities and their families. The authors propose and describe a number of tenets of this theory and the evidence based practices or value-based practices associated with positive outcomes for children and families. The authors conclude that there still are many questions to address regarding the definition and use of evidence-based practices in the field of EI/ECSE.

Raab, M., & Dunst, C. J. (2004). Early intervention practitioner approaches to natural environment interventions. *Journal of Early Intervention, 27*(1), 16-26.  
<http://jei.sagepub.com/content/27/1/15.abstract>

Research studies have produced evidence indicating that embedding traditional, child-directed practices into everyday family routines can have negative effects. In this qualitative study, practitioner beliefs about and understanding of natural environment interventions were examined. Findings indicated that practitioners with limited understanding of the theory, research and practice about natural learning environments are more likely to interpret the natural environment provision in terms of what they already know and do (e.g., focus of intervention is an adult-directed, practitioner led intervention that may occur at home in the "natural" environment.). The authors felt that it was promising that practitioners who had opportunities to learn about natural learning environments were able to describe them in ways that mirrored research evidence. The article concludes with a discussion of current research related to the importance of "bridging the research and practice gap" and that further investigation is needed to determine whether practice changes as a result of increased understanding and knowledge of natural learning environments. Also supports Principle 1.

Raspa, M., Bailey, D., Olmsted, M., Nelson, R., Robinson, N., Simpson, M., ... Houts, R. (2010). Measuring family outcomes early intervention: findings from a large-scale assessment. *Exceptional Children*, 76(4), 496-610.

<http://cec.metapress.com/content/h8g220315r787754/?p=2c091751e6764450be4b66d08cf55e4e&pi=0>

Part C early intervention programs are required to involve families in assessing the needs of the child and in selecting services. However, relatively little research has addressed the outcomes or benefits that families should experience as a result of their child's participation in early intervention. The authors discuss that, "Assessing family outcomes, and not merely documenting professional practices, is the key to evaluating the efficacy of programs." This article reports data from a large-scale assessment using the *Family Outcomes Survey (FOS)* with families participating in early intervention. Overall, families participating in early intervention reported that they have attained or made progress toward important family outcomes. Some variations in findings suggest that early intervention may have "two distinct components—one related to a more traditional view of services (e.g., rights, therapies, etc.) and one related to social supports and community access. The authors discuss that while both of these outcomes are important, they may require different methods and interventions to achieve.

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