CREDENTIAL

Infant Toddler Family Specialist (ITFS)

Examination Manual and Study Guide

Connecticut
Birth to Three
System

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Acknowledgments:

The Birth to Three System would like to acknowledge Bonnie Keilty, Ed. D for developing the Examination Study Guide.

Connecticut's lead agency for Part C of IDEA is:

DMR

Department of Mental Retardation

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Infant Toddler Family Specialist Credential
Examination Manual

This guide provides registration information and the policies and procedures for completing the ITFS credential examination. The examination is one piece in the process of obtaining the credential and/or the early intervention specialist designation. (for more information on the EIS, please see the ITFS Credential Manual)

There are two multiple-choice examinations associated with the credential.
The Service Delivery Examination is 50 items and should be completed by those seeking a 1.0.0 or 1.0.3 endorsement. The Evaluation Examination is 75 items and should be completed by those seeking the 1.2.0 and 1.2.3 endorsement and those seeking the EIS designation

Testing dates will be made available periodically and announced in the Birth to Three Update and on the Birth to Three List Serve. To register call 860-418-6155. You must be currently working for a Birth to Three Program to register.

Security
Candidates will be asked to present their drivers license or alternate form of photo identification before beginning the exam.

Test Delivery
The pencil and paper examination will <u>not</u> be scored at the testing site. Once the test has been scored the candidate will be notified of the results by mail within 10 days.

Infant Toddler Family Specialist Credential
Examination Manual and Study Guide

Overview

The Connecticut Birth to Three System's credentialing program was created to strengthen early intervention in the State by certifying providers who are proficient in meeting the unique needs of families with infants and toddlers with or at risk for developmental delays or disabilities. As described in the *Infant Toddler Family Specialist (ITFS) Manual* (Connecticut Birth to Three System, 2005),

The purpose of the credential is to:
- *Ensure positive outcomes for children and families by assisting Birth to Three providers to reflect upon their practice*
- *Ensure providers' knowledge and skills meet a state-wide standard of practice*
- *Ensure parents that their providers have specific knowledge about early intervention*
- *Offer professional recognition for early interventionists*
- *Assist program directors with supervision and goal setting for staff.*

Therefore, the credentialing process provides an opportunity for both professional development and professional distinction. The process towards obtaining the Infant, Toddler Family Specialist (ITFS) Credential includes presenting a portfolio of products as evidence of expertise in early intervention supports and services. One source of evidence is two knowledge tests; one related to the endorsement in direct services and one related to the endorsement in evaluations. Early interventionists seeking endorsement in either direct services only (endorsement 1.0.0) or direct services and service coordination (endorsement 1.0.3) are required to take only the direct services examination. Early interventionists seeking endorsement in either direct services and evaluations (endorsement 1.2.0) or direct services, evaluations and service coordination (endorsement 1.2.3) are required to take both the direct services and the evaluations examinations. This *Study Guide* was created to support early interventionists in successfully completing the required examinations as part of the credentialing process.

Purpose of the Study Guide

The purpose of the *Study Guide* is to facilitate early interventionists' success in obtaining the ITFS credential. To do so, candidates can use the *Study Guide* to prepare for the ITFS examination(s) by:
- Individually determining content areas for further study using identified resources;
- Reviewing concepts related to specific competency indicators;
- Discussing concepts with colleagues as a study group; and
- Practicing examination items.

While the *Study Guide* serves as a review and reference, it is important to identify what the *Study Guide* **does not** provide. The *Study Guide* does not replace training and supervised practical experience specific to early intervention supports and services. The *Study Guide* is not exhaustive of the knowledge base necessary to pass the examinations, but provides examples of knowledge within each theme or concept. The *Study Guide* also does not supplant the *Procedures Manual* (Connecticut Birth to Three System, 2004a). It is highly recommended that, before taking either of the examinations, the credential candidate be well versed in the content of the *Procedures Manual*, including the laws, regulations and interagency agreements.

Study Guide Format

The *Study Guide* is divided into two sections according to the two endorsement examinations – direct service and evaluation. Each section begins with a general description of the knowledge test concepts, and is further divided into themes where more specific concepts are explored.

The themes encompassing the direct services section are:
- Understanding Families
- Biological and Environmental Risk
- Infant-Toddler Development
- Planning and Implementing Interventions
- Teaming and Collaboration
- Ongoing Assessment For Intervention Decisions
- Transition
- Regulations, Procedures and Resources

The themes encompassing the evaluation section are:
- Pre-Assessment Planning and Procedures
- Assessment Methods
- Interpreting and Discussing Assessment Findings
- Assessment for Intervention Planning and Evaluation

Each theme is explored in 6 parts:

> **Rationale** provides a justification for the content and recommended practices of the theme, concentrating on the role of the theme in providing effective supports and services.

> **Relevant indicators** are those Birth to Three System indicators of effective practices (See the *Infant Toddler Family Specialist (ITFS) Manual*, 2005) covered in the theme.

> **Sample Questions** can be used by early interventionists to determine their comfort with the content in the theme. These questions can be used as practice

items or they can be used to decide how much time the early interventionist wants to spend on the content within the theme.

Description of the theme is expanded upon by presenting specific content. The core of practices is explored in this part.

Sample Questions Revisited provides the answers to the sample questions presented earlier, with an explanation.

Resources are books, journals, articles, and websites specific to the theme. Early interventionists can further explore each theme by accessing these resources.

The format of the *Study Guide* will provide early interventionists with the opportunity to fully explore specific themes as they relate to the *Birth to Three System* indicators for effective practice, and to move back and forth between different themes, as they prepare for the credential examination.

General Resources

Below are books, journals and websites that provide information about early intervention in general. Within each section of the *Study Guide*, resources specific to the topics are provided.

Books:

Bredekamp, S., & Copple, C. (Eds.). (1997). *Developmentally appropriate practice in early childhood programs (Revised). Washington, DC: NAEYC.*

Howard, V., Williams, B., & Lepper, C. (2005). Very *young children with special needs: A formative approach for today's children, 3rd edition.* Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.

McLean, M., Wolery, M., & Bailey, D. (2004). *Assessing infants and preschoolers with special needs, 3rd edition.* Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.

Mulhearn Blasco, P. (2001). *Early intervention services for infants, toddlers, and their families.* Needham Heights, MA: Allyn and Bacon.

Sandall, S., McLean, M., & Smith, B. (2000). *DEC recommended practices in early intervention/early childhood special education.* Longmont, CO: Sopris West.

Shonkoff, J., & Meisels, S. (Eds.). (2000). *Handbook of early childhood intervention, 2nd edition.* Cambridge, UK: Cambridge University Press.

Shonkoff, J., & Phillips, D. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development.* Washington, DC: National Academy Press.

Zeanah, C. (Ed.). (2000). *Handbook of infant mental health, 2nd edition.* New York: Guilford Press.

Journals:

Journal of Early Intervention from the Council for Exceptional Children, Division for Early Childhood (http://www.dec-sped.org)

Young Exceptional Children from the Council for Exceptional Children, Division for Early Childhood (http://www.dec-sped.org)

Infants and Young Children from Lippincott, Williams and Wilkins (http://www.lww.com).

Topics in Early Childhood Special Education from Pro-Ed (http://www.proedinc.com). Articles for this journal are available through http://www.findarticles.com.

Websites:

Connecticut Birth to Three System
http://www.birth23.org
Provides information on policies and procedures specific to Connecticut as well as service guidelines on intervention practices.

National Early Childhood Technical Assistance Center (NECTAC)
http://www.nectac.org
Provides information, research, current projects and community of practice discussions on a variety of topics related to early intervention.

The Puckett Institute
http://www.puckett.org
Actively disseminates information on Institute projects, as well as research and best practices syntheses in early intervention.

ZERO TO THREE: National Center for Infants, Toddlers and Families
http://www.zerotothree.org
Provides information on various aspects of infant and toddler development including brain development and infant mental health/social emotional development.

SERVICE DELIVERY

The knowledge test for the service delivery endorsement contains questions on information and methods necessary to plan and implement, within a transdisciplinary team, family-centered, contextualized interventions for infants and toddlers across a variety of disabilities and risk factors. Policies and procedures mandated by the Connecticut Birth to Three System, related state agencies, and state and federal legislation and regulations are included in this knowledge test.

Understanding Families

Rationale:

Young children develop within the context of their families. Interventionists must understand the values, interests and priorities of each individual family in order to create and implement interventions that are appreciated by that family. Effective child-focused interventions (those addressing outcomes specific to child learning and development) require families to use the intervention strategies in between intervention visits. Families are more motivated and more likely to use these strategies when they reflect what is important to the family and everyday family life. Effective family-focused interventions (those addressing outcomes specific to meeting family needs that strengthen the family's capacity to address their child's learning and development) are those that are specific to the individual family's needs and expectations, as opposed to general societal norms or strategies. Therefore, to create and implement individualized child and family interventions, interventionists must understand how families function, the developmental process of parenting, the role of culture in family functioning, strategies for supporting families, and the impact of disability on a family. This broad knowledge of families in general can then be applied and individualized for each family with whom the interventionist works.

Relevant Indicators:

SD29 Knowledge of family systems theory and life cycles (e.g., formation of the family, additional people in the home, birth of a sibling)

SD30 Knowledge of multicultural and multiethnic diversity issues, including deaf culture

SD33 Knowledge of different ways of supporting families (e.g., how to select childcare, accessing parent support groups)

SD 38 Knowledge of how a child with special needs affects relationships with the family and community

1. A family life cycle transition unique to families of young children with disabilities is:

        a.   transition to school.
        b.   birth of a sibling.
        c.   confirmation of a diagnosis.
        d.   parent returning to work.

2. You are the primary interventionist for a family from South Korea. The ***best*** way to understand this family's culture is to:

        a.   ask the family.
        b.   read books on the culture.
        c.   ask other Korean families you know.
        d.   wait until the family shares their culture with you.

3. A mother tells you she feels she never gets to go out for a night without the kids. You:
        a.   tell her you know what she means. You never get out either.
        b.   ask about friends or family who might watch the kids or trade babysitting.
        c.   tell her about a parent group she could go to where there is babysitting.
        d.   offer to watch the kids while she goes out.

4. Having a child with special needs can affect:

        a.   sense of competence as a parent.
        b.   accomplishing everyday tasks.
        c.   getting together with friends.
        d.   all of the above.

Description:

      Family Systems Theory and Life Cycles. Each family defines itself in its own way. It is up to the members of the family to identify who is a part of the family and each individual's role within the family. Turnbull, Summers and Brotherson (1984) described a conceptual framework for looking at family systems and how they function. There are many relationships, or subsystems, within the family system -- marital, sibling to sibling, parent to child, and relationships with extended family members. The functions of everyday family life occur through these relationships and include economic needs, daily care, recreation, socialization, affection, self-definition and educational/vocational needs. The family system can be defined by the characteristics of the disability or special need, the characteristics of the family as a whole and the characteristics of each individual, and any special challenges of the family. The family life cycle is the developmental process of families with stages marked by a change in family functions, characteristics or composition (Mulhearn Blasco, 2001). These transitions can include the addition or removal of a family member such as bringing a baby home from the

hospital or a change in work status. While transitions are stressful for any family as a time of change, transitions for families of children with disabilities that produce stress are when families receive a diagnosis, find and begin services, adapt to the child's needs, and transition to school based services (Beckman, 2002). Interventionists must be sensitive to, and supportive of, the time families need to work through the transition period.

Cultural Considerations. Each family culture is unique and, while understanding generalizations about a family's specific ethnic culture is an important foundation, interventionists must take care not to make assumptions about a family's functioning based on those generalizations. Culture is broad-based and spans beyond ethnicity. Each family's culture varies depending on assimilation, education, age, roles, and income (CLAS Institute, 2005, Cultural Issues Section, ¶ 1). A family's values, beliefs and traditions that comprise its culture are reflected in the family's patterns of functioning. The family culture includes their perception of disability, the role of early intervention, parenting and how children learn, the roles and responsibilities of each family member including child caregiving, how decisions are made and who participates in making them, and participation in formal and informal community activities. To provide individualized, culturally competent supports and services, early interventionists must have a conversation with the family regarding its unique culture and how this culture should be reflected in intervention implementation.

The individual family culture is comprised of many cultures. For example, some families are a part of an ethnic culture and the deaf culture. There are multiple resources available to become familiar with the deaf culture, including the Laurent Clerc National Deaf Education Center at Galludet University (http://clerccenter.gallaudet.edu/), which has books, links and other resources on the deaf culture. Within Connecticut, more information can be obtained through the Connecticut Birth to Three programs for children with sensory disorders, the American School for the Deaf, the New England Center for Hearing Rehabilitation-NECHEAR, and Soundbridge Birth to Three, whose contact information can be accessed through the Birth to Three website at (http://www.birth23.org/Programs/Statewide.asp).

Providing Family Support. Family support is a part of early intervention because "social support and resources directly influence the health and well being of parents; both support and health/well being influence parenting styles; and support, well being, and parenting styles directly and indirectly influence child behavior and development" (Trivette & Dunst, 2000, p. 40). Therefore, family-based practices are endorsed in early intervention because of their relationship to child developmental outcomes. Guralnick (2001) identified family stresses that influence child development. Family characteristics that result in stressors include personal characteristics of parents such as mental health, intellectual ability and child rearing attitudes and practices, financial resources, social supports such as the marital relationship and family/friend/community networks, and child temperament. Family stressors that result from the characteristics of the child's disability include information needs, interpersonal and family distress, resource needs and confidence threats. Guralnick suggests that addressing these stressors in early intervention will support positive parent-child

transactions, family-orchestrated learning opportunities and child health and safety, which, in turn, promote child development. Any of these stressors can be intervention outcomes to be addressed through collaboration between the interventionist and family.

The Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) DEC Recommended Practices (Trivette & Dunst, 2000) identified 17 practices of family-based practices under the four categories of:
- Families and professionals share responsibility and work collaboratively;
- Practices strengthen family functioning;
- Practices are individualized and flexible; and
- Practices are strengths- and assets-based.

Family support is practiced under the assumption that all families have strengths upon which to build new competencies to further enhance family functioning. The use of *informal networks* and *community-based supports* is emphasized as natural supports of a family, as well as specific formal supports as needed based on the individual characteristics of the child's disability and other family needs.

Interventionists support families by determining, in collaboration with the family, the types and level of assistance the family desires from the interventionist. For example, two families might request assistance in finding quality child care for their children with disabilities. For both families, the interventionist provides general information on looking for quality child care, identifies family preferences and interventionist suggestions regarding child care based on the child's needs, and talks about the type of assistance the family wants from the interventionist. Based on this conversation, support is differentiated. For one family, the interventionist provides the *Infoline* number so the family can access local child care centers that meet their general requirements. The family takes the general and individualized information about quality child care provided by the interventionist and visits the centers without the interventionist, but takes along the mother's sister to get her perspective (e.g., informal support). The other family takes time in between home visits to write down how the child's disability will be discussed with the child care providers and, at the next home visit, practices with the interventionist. The interventionist comes to that next visit with a list of family child care homes, the type of care preferred by the family, and reviews this list with the family to decide which ones to visit. The interventionist accompanies the family to the family child care homes, allowing the family to lead the visit and adding questions and comments sparingly as needed.

Interventionists must provide honest, unbiased information, rather than their own perspectives, and respect the family's preferences, rather than what they "believe" is the right choice. For example, an interventionist might believe that parent-to-parent support is essential and best achieved through formal groups where families can come together face to face. However, a family might prefer the electronic means of parent support, such as through chat rooms and list servs. Another family might not want to explore parent-to-parent support at all. The interventionist should provide information on all types of support, and the pros and cons for each, then support the family in whatever decision they choose.

The Influence of Special Needs. Families with young children are frequently adapting to the characteristics of their child, including the child's temperament and sleeping and eating patterns. They also adapt their family life based on what makes functional sense for the family, such as the financial decision between two incomes and paying for child care or one income and one parent staying home. While families of children with disabilities do need time and support to adapt to their individual child's characteristics, most families, regardless of socioeconomic status or maternal education, make "functional responses or adjustments to the demands of daily life with a child who has delays…to create and sustain an everyday routine of family life" (Keogh, Garnier, Bernheimer, & Gallimore, 2000, p. 34). Families of children with disabilities go on with their lives, include the child with a disability in their everyday life and make adaptations so that the family system can continue to function. Family responses to having a child with a disability are varied and individual, depending on family and individual resources, support and coping strategies (Mulhearn Blasco, 2001). As described above, the times of transition can be particularly stressful for families of young children with disabilities.

While families adapt to life with a child with disabilities, the impact on participating in family and community life like any other family can be difficult. Families may not know how to include their child in these activities, how to talk to family, friends and those in the community about their child's disability, needs, strengths and competencies, and how to address family and friend responses to their child's disability. For example, a grandmother of a child with autism may try to help out at a party by offering to watch the child. However, she is not as vigilant as the child needs, which results in the parent having to continue to watch the child instead of "taking a break," which also results in tension between the parent and grandparent. Interventionists must have an open and honest discussion with the family to identify their needs and priorities with regard to participating in family and community life, and support the family in addressing these concerns.

Sample Questions Revisited:

1. A family life cycle transition unique to families of young children with delays or disabilities is:

    a.   transition to school.
    b.   birth of a sibling.
    c.   confirmation of a diagnosis.
    d.   parent returning to work.

c. Families of children without delays or disabilities do not receive a diagnosis. The other choices are life transitions that can occur in any family.

2. You are the primary interventionist for a family from South Korea. The <u>best</u> way to understand this family's culture is to:

    a.   ask the family.
    b.   read books on the culture.
    c.   ask other Korean families you know.
    d.   wait until the family shares their culture with you.

a. While b and c will provide you with general information about the larger ethnic culture, which can be helpful, those actions will not provide specific information on the family's unique culture. With regard to (d), Families might assume you are not interested in their culture if you do not ask.

3. A mother tells you she feels she never gets to go out for a night without the kids. You:
    a.   tell her you know what she means. You never get out either.
    b.   ask about friends or family who might watch the kids or trade babysitting.
    c.   tell her about a parent group she could go to where there is babysitting.
    d.   offer to watch the kids while she goes out.

b. Informal supports are the natural and enduring supports of families.

4. Having a child with special needs can affect:

    a.   sense of competence as a parent.
    b.   accomplishing everyday tasks.
    c.   getting together with friends.
    d.   all of the above.

d. While each family is individualized in terms of the impact having a child with special needs has on family and community life, any of these factors can require supports in adapting to life with a child with special needs.

Resources:

Websites:

Cultural Contexts for Early Intervention: Working With Families
http://www.asha.org/about/continuing-ed/ASHA-courses/SSV/SSV6470.htm
Offers an ASHA course about authentic family-centered practice by Susan M. Moore, CCC-SLP and Clara Perez-Mendez (ASHA CEUs available).

Beach Center for Disability at the University of Kansas
http://www.beachcenter.org/
Has resources on a variety of topics related to individuals with disabilities including family and professional partnerships, family quality of life, parent to parent, and cultural and linguistic diversity.

CLAS: Culturally and Linguistically Appropriate Services Early Childhood Research Institute
http://www.clas.uiuc.edu
Provides information on various resources regarding culturally and linguistically appropriate services and supports.

Laurent Clerc National Deaf Education Center at Galludet University
http://www.clerccenter.gallaudet.edu/
Provides resources on improving the quality of education for deaf and hard of hearing children and youth from birth through age 21, including understanding the deaf culture.

National Center for Cultural Competence at Georgetown University
http://www.gucchd.georgetown.edu//nccc/index.html
A center at the *Georgetown University Center for Child and Human Development* provides products, professional development and other resources on providing culturally competent services and supports.

Literature:

Beckman, P. (Ed.). (1996). *Strategies for working with families of young children with disabilities.* Baltimore, MD: Paul H. Brookes Publishing Co.

Connecticut Birth to Three System. (1999a). *Service guideline #5 young children who are hard of hearing or deaf.*
Access at http://www.birth23.org/Publications/hearingguidebook.pdf

Division of Early Childhood. (2004). *Position statement and concept paper on responsiveness to family cultures, values and education.*
Access at http://www.dec-sped.org/positionpapers.html

Lynch, E., & Hanson, M. (2004). *Developing cross-cultural competence: A guide for working with children and their families, 3rd edition.* Baltimore, MD: Paul H. Brookes.

Turnbull, A., Turbiville, V., & Turnbull, H. (2000). Evolution of family-professional partnership models: Collective empowerment as the model for the early 21st century, in S.J. Meisels & J.P. Shonkoff (Eds.), *Handbook of early childhood intervention* (2nd edition, pp. 640-650). New York: Cambridge University Press.

Turnbull, A., & Turnbull, H. (2001). *Families, professionals & exceptionality*. Columbus, OH: Merrill Prentice Hall.

Vacca, J., & Feinberg, E. (2000). Why can't families be more like us? Henry Higgins confronts Eliza Doolittle in the world of early intervention. *Infants and Young Children, 13*(1), 40-48.

Biological and Environmental Risk

Rationale:

Risk factors, in the form of genetic and medical conditions and less-than-optimal environmental conditions, result in a higher probability of developmental delay or disability. While information about specific risk factors provides broad-based information and limited predictability of current and future child learning and development, knowledge of risk factor features and its relationship to child learning and development provide a basis from which to understand child health status and behaviors necessary to design and implement interventions.

Relevant Indicators:

SD19 Knowledge of the etiology and symptomatology of common genetic and medical conditions (e.g., low birth weight, Down syndrome, autism spectrum disorder)

SD20 Knowledge of where to find information on etiology and symptomatology of low-incidence genetic and medical conditions

SD21 Knowledge of the impact of common medical conditions, medications, and nutrition on the health and physical development of the child

SD22 Knowledge of the impact of environmental risk factors on the health and emotional and physical development of the child

Sample Questions:

1. Most children with Down syndrome are born to mothers who are:

    a.   under 18 years of age.
    b.   18-35 years of age.
    c.   over 35 years of age.
    d.   (a) and (c).

2. You are beginning to work with a family whose child has Rubinstein-Taybi syndrome. Unfamiliar with this syndrome, you:

    a.   ask to speak to the child's geneticist.
    b.   conduct a random search on the Internet.
    c.   read a research article on the syndrome.
    d.   ask around to find someone who has heard of the syndrome.

3.   Nutritional issues are frequently found in children with which disability:

     a.   vision impairments.
     b.   autism.
     c.   Down syndrome.
     d.   prematurity.

4. The environmental risk factor most commonly associated with developmental outcomes is:

     a.   parental education level.
     b.   family income level.
     c.   maternal depression.
     d.   single parent households.

5. If a child's sibling has autism, the likelihood of that child having autism is greater if the children are:

     a.   identical rather than fraternal twins.
     b.   fraternal twins rather than siblings of different ages.
     c.   both boys rather than both girls.
     d.   step-siblings rather than biological siblings.

Description:

Common Genetic and Medical Conditions. Common genetic and medical conditions encountered in early intervention include low birth weight, Down syndrome, autism spectrum disorder, and cerebral palsy.

Low birth weight is commonly diagnosed when infants are born less than 2,500 grams, or 5.5 pounds (Rais-Bahrami, Short, & Batshaw, 2002). The majority (70%) of children who are low birth weight are also premature (born less than 37 weeks gestation). Full term infants who were born weighing less than 2,500 grams are not only considered low birth weight, but also small for gestational age (SGA), their birth weight is below the 10th percentile for their gestational age. While infants born prematurely can also be considered small for gestational age, their low birth weight can be appropriate for their gestational age (AGA). Infants who are SGA have a different medical and developmental course than those who are AGA. Rais-Bahrami and colleagues identified maternal infections and adolescence as the most common causes of prematurity; other "factors include inadequate prenatal care, poverty, acute and chronic maternal illness, multiple-gestation births, a history of previous premature pregnancies, smoking and substance abuse" (p. 89). Medical conditions associated with prematurity include respiratory complications such as bronchopulmonary dysplasia (BPD), neurologic concerns such as intraventricular hemorrhage (IVH) and periventricular leukomalacia (PVL), and vision and hearing impairments. Developmental concerns include physiologic, motoric and emotional regulation, executive functioning, and other learning

needs. The risk of disability and developmental delays increases with decreasing birth weight (Rais-Bahrami, et al.). Interventions that support the child in learning to self-regulate and facilitating positive parent-child interactions have shown to be effective in increasing child learning and functioning.

Down syndrome is a genetic syndrome resulting from an extra 21st chromosome. The reported prevalence of Down syndrome is currently 0.92 per 1,000, with maternal age being a risk factor (Roizen, 2002). Medical concerns related to Down syndrome include congenital heart disease, vision and hearing concerns, orthopedic impairments and congenital hypothyroidism (Roizen, 2002, 2003). Developmental concerns include hypotonia and cognitive and language impairments. Research has demonstrated the importance of early intervention in preventing a decline in developmental measures in young children with Down syndrome (Shonkoff & Phillips, 2000).

Autism spectrum disorder (ASD) is characterized primarily by difficulty in "(1) the capacity for joint attention, which underlies a child's ability to coordinate and share attention, share emotions, express intentions, and engage in reciprocal social interactions, and (2) the capacity for symbol use, which underlies a child's understanding of meaning expressed through conventional gestures, words, and more advanced linguistic forms, and the ability to engage in appropriate use of objects leading to imaginative play" (Prizant, Wetherby, Rubin, & Laurent, 2003, p. 300). In addition, children with ASD typically display difficulty in self-regulation, evidenced by challenging behaviors, stereotyped movements, and sensory impairments (Towbin, Mauk, & Batshaw, 2002). Etiology of ASD is due to neurological differences in the brain with a genetic component as demonstrated by the 70-90% co-occurrence rate of autism among identical twins (Towbin, et al.). A comprehensive review of the research on assessment and intervention of children with ASD was conducted by the National Research Council and compiled in the text, *Educating Children with Autism* (Lord & McGee, 2001), which can be accessed at http://www.nap.edu for purchase or to read on-line.

Cerebral palsy is "a disorder of movement and posture that is caused by a nonprogressive abnormality of the immature brain" (Pellegrino, 2002, p. 443). The primary causes of cerebral palsy are prematurity (40-50%), problems with intrauterine development, infants who are full term, but small for gestational age (SGA), and perinatal complications. The prevalence rate is 3 per 1,000 live births (Griffin, Fitch, & Griffin, 2002). Motor delays and atypical motor patterns are characteristic of children with cerebral palsy. Symptomatology centers on motor impairments which can include (1) spasticity that affects one side of the body more (*hemiplegia*), the legs more than the arms (*diplegia*), or the trunk, limbs and oral motor functioning (*quadriplegia*); (2) changing patterns of muscle tone or (3) abnormalities in voluntary movement (Pellegrino). Other developmental concerns associated with cerebral palsy are cognitive and communication delays, hearing and visual impairments, seizures, feeding concerns and emotional needs (Pellegrino).

Resources on Low-Incidence Genetic and Medical Conditions. Finding accurate information about low incidence genetic and medical conditions can be difficult for both interventionists and families. When a child is diagnosed with a low-incidence genetic or medical condition with which the interventionist is unfamiliar, the interventionist and family can partner to gather and review pertinent information. Caution must be taken regarding information found on the Internet to ensure that the source of that information is reputable. However, three Internet sources that provide fact-based information on a variety of low-incidence conditions are the *National Institute of Neurological Disorders* (NINDS) at the *National Institutes of Health* (NIH) at http://www.ninds.nih.gov/disorders/disorder_index.htm, the *National Organization for Rare Disorders* (*NORD)* at http://www.rarediseases.org and *Family Village* at http://www.familyvillage.wisc.edu. Another general resource for genetic and medical conditions is the book, *Children with Disabilities, 5*[th] *Edition* by Mark Batshaw (2002), which is referenced below. This book provides information on numerous genetic and medical conditions seen in children with disabilities. National associations of specific low-incidence genetic and medical conditions are other sources of information, such as the *Spina Bifida Association of America* (http://www.sbaa.org).

Besides text and web-based resources, interventionists can make use of team members and other community resources to uncover information on genetic and medical conditions. A child's pediatrician or primary care physician, as a member of the early intervention team, can be a great source to understand the diagnosis, health and developmental implications, and any necessary precautions. Any medical specialists, such as a geneticist, neonatologist, pulmonologist, cardiologist, or physiatrist, who are a part of the child's medical team and therefore know the child's specific characteristics, can also provide information.

A genetic condition frequently overlooked in the infant-toddler years is *Fragile X syndrome*. Fragile X syndrome is the most commonly known genetic cause of mental retardation and learning disabilities (Bailey, Roberts, Mirrett ,& Hatton, 2001; Meyer & Batshaw, 2002). While some children who are undiagnosed but have Fragile X syndrome are identified with a developmental delay prior to 24 months of age, most children with Fragile X syndrome are not identified until at least three years of age, because of the subtle nature of their delays in the early years (Bailey, et al.). The *Carolina Fragile X Project* at the *Frank Porter Graham Child Development Institute* at the *University of North Carolina at Chapel Hill* provides public awareness and conducts studies on the impact of Fragile X on families and professionals. This site can be accessed at http://www.fpg.unc.edu/~fx/. Other resources include the *National Institute of Child Health and Human Development (NICHD)* at *NIH*. The *NICHD* website for Fragile X syndrome is http://www.nichd.nih.gov/publications/pubs/fragileX/index.htm.

Common Medical Conditions and Nutrition. Health and nutrition can impact a child's development, as well as the level of stress a family experiences.

Otitis Media, or middle ear infections, are very common in young children. Chronic otitis media is usually paired with fluctuating hearing loss, which may impact speech and

language development, especially for children with identified disabilities (Herer, Knightly, & Steinberg, 2002). Children with disabilities who are specifically at risk for otitis media are children with Down syndrome, Williams syndrome, Apert syndrome, Fragile X syndrome, Turner syndrome, cleft palate and autism (Zeisel & Roberts, 2003).

Gastroesophageal reflux (GER) is the flow of stomach contents into the esophagus. A child with GER may associate pain with eating, which can result in refusing to eat or eating selective foods. When choosing foods that are easier to swallow, the child may not have an opportunity to practice with foods of different textures, delaying oral motor development (Eicher, 2002).

Balanced nutrition is critical in the infant toddler years for growth and development. Inadequate nutrition can impact: (1) brain development, resulting in impairments in cognition and neurological functioning, and (2) muscle and bone development resulting in motor delays (Connecticut Birth to Three System, 1998a). Children with inadequate nutrition also experience reduced energy to explore and learn, are less able to fight infection, and can experience digestive problems. Besides the need for adequate nutrition for all children, children with disabilities can be at increased risk for nutritional concerns. Nutritional issues are frequently found in children with inborn errors of metabolism, autism, cerebral palsy and meningomyelocele (Beker, Farber, & Yanni, 2002). For more information about nutrition and related resources, download the *Connecticut Birth to Three* service guidelines on nutrition at http://www.birth23.org/Publications/nutritn.pdf.

      Environmental Risk Factors. Environmental risk is the presence of factors occurring in the child's life that place the child at a higher chance of experiencing negative developmental consequences. Two aspects of risk that make it difficult to determine the impact of specific risk factors on developmental outcomes are the co-occurrence of multiple risk factors and the chronicity of risk factors. The developmental impact risk factors have on a child's development depends on the number of risk factors the child is experiencing and the length of time the child has experienced the risk factors. In addition, the presence of protective factors moderates the impact of risk factors on child resilience (Werner, 2000).

Families in poverty more frequently experience risk factors that are negatively related to child outcomes. These factors include parental education, maternal depression, elevated lead levels, and home environments that are not as supportive for child learning. Shonkoff and Phillips (2000) summarized the literature on these risk factors. Parental education levels have consistently been correlated to child developmental outcomes. These educational levels are "strongly associated with the home literacy environment, parental teaching styles, and investments in a variety of resources that promote learning" (p. 282). Maternal depression has been shown to be linked to less-than-optimal interaction patterns, diminished emotional availability to their infants, and doubts about their parenting ability (Shonkoff & Phillips). Children of depressed mothers have shown greater risk of social-emotional and behavior concerns. Elevated lead levels are associated with attention deficits, cognitive delays and behavioral concerns.

Home environments that lead to positive child well-being include stimulation, emotional support, structure, and safety (Shonkoff & Phillips). A frequent measure of home environments is the *Home Observational and Measurement of the Home Environment (HOME*; Caldwell & Bradley, 1984) that examines parental responsivity, acceptance of the child, organization of the environment, learning materials, parental involvement, and variety in experience.

Sample Questions Revisited:

1. Most children with Down syndrome are born to mothers who are:

       a.   under 18 years of age.
       b.   18-35 years of age.
       c.   over 35 years of age.
       d.   (a) and (c).

b. There is a higher prevalence rate of Down syndrome among older mothers (c). However, the majority of all children are born to mothers between 18 and 35 years, resulting in a higher actual number of children with Down syndrome born to mothers in this age range (b).

2. You are beginning to work with a family whose child has Rubinstein-Taybi syndrome. Unfamiliar with this syndrome, you:

       a.   ask to speak to the child's geneticist.
       b.   conduct a random search on the Internet.
       c.   read a research article on the syndrome.
       d.   ask around if anyone has ever heard of the syndrome.

a. The most reliable source of data is a professional specializing in genetic disorders. The child's geneticist will also be able to provide information specific to the individual child rather than general information.

3.   Nutritional issues are frequently found in children with which disability:

       a.   vision impairments.
       b.   autism.
       c.   Down syndrome.
       d.   prematurity.

b. While any child can present with nutritional issues, it is common for children with autism as the range of foods eaten might be constricted due to sensitivity to foods.

4. The environmental risk factor most commonly associated with developmental outcomes is:

      a.   parental education level.
      b.   family income level.
      c.   maternal depression.
      d.   single parent households.

a. Parental education level is a consistent predictor of developmental outcomes in young children.

5. If a child's sibling has autism, the likelihood of that child having autism is greater if the children are:

      a.   identical rather than fraternal twins.
      b.   fraternal twins rather than siblings of different ages.
      c.   both boys rather than both girls.
      d.   step-siblings rather than biological siblings.

a. Identical twins share the same genetic make up, and therefore have a higher co-occurrence rate of autism than children who share less genetic make up, such as fraternal twins. Fraternal twins have the same shared genetic make up as siblings of different ages, and therefore have similar rates of co-occurrence (b). Step-siblings do not share any genetic make up and therefore would have lower rates of co-occurrence (d).

Resources:

Websites:

Family Village
http://www.familyvillage.wisc.edu/index.htmlx
Sponsored by the Waisman Center at the University of Wisconsin, provides disability-related resources, including a comprehensive listing of websites for specific diagnoses and medical conditions.
National Down Syndrome Congress
http://www.ndsccenter.org
Provides information, advocacy and support for individuals with Down syndrome.
     Connecticut Down Syndrome Congress
     http://www.ctdownsyndrome.org/
National Institute of Child Health and Human Development (NICHD)
http://www.nichd.nih.gov/
Provides information on multiple medical and developmental conditions, including autism and Fragile X syndrome.

National Institute of Neurological Disorders and Strokes (NINDS)
http://www.ninds.nih.gov/disorders/disorder_index.htm
Provides a database of a variety of neurological conditions.

National Organization for Rare Disorders (NORD)
http://www.rarediseases.org/
Provides a database and index of rare disorders as well as organizations and support groups related to specific disorders.

Spina Bifida Association of America
http://www.sbaa.org
Provides resources and support for families and professionals of children with spina bifida.

United Cerebral Palsy
http://www.ucp.org
Has multiple resources on cerebral palsy. A resource guide for Connecticut families can be downloaded by clicking on "parenting and families" from the home page, then clicking on "resources."

Literature:

Batshaw, M. (Ed.). (2002). *Children with disabilities, 5th edition.* Baltimore, MD: Paul H. Brookes Publishing Co.

Connecticut Birth to Three System. (2002). *Service guideline #1 autistic spectrum disorder: Intervention guidance for service providers and families of young children with Autistic Spectrum Disorder.* Access at http://www.birth23.org/Publications/Autism2002.PDF

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Lord, C., & McGee, J. (Eds.). (2001). *Educating children with autism.* Washington, DC: National Academy Press.

Roizen, N. (2003). The early interventionist and the medical problems of the child with Down syndrome. *Infants and Young Children, 16* 91) 88-95.

Zeanah, C. (Ed.). (2000). *Handbook of infant mental health, 2nd edition.* New York: Guilford Press.

Infant-Toddler Development

Rationale:

Young children learn, function and participate in their everyday lives by integrating their competencies across domains, rather than using only one domain at a time. Therefore, interventionists, regardless of discipline, must be knowledgeable in all developmental domains to build on a child's strengths and address their needs to effectively promote learning and functioning in everyday activities. However, interventionists must not only understand developmental expectations across domains – *what* the child should develop. This information provides the goals for the intervention. Interventionists must also understand *how* children develop, including the role of the environment, typical and atypical developmental variability, and the multiple modes of functioning, such as communication and mobility options, that allow children to explore, learn and participate in everyday life. This information provides guidance on *how* interventions should be designed.

Relevant Indicators:

SD18 Knowledge of typical and atypical infant and toddler development in the areas of physical (i.e., motor and sensory) development, cognition, communication, adaptive behavior, and personal-social development

SD23 Knowledge of the current theories, trends, issues, and research regarding infant toddler development and their implications for intervention

SD 39 Knowledge of the range of language and communication options available for children

Sample Questions:

1. Infants develop which emotion in their first year:

     a.   Pride
     b.   Sadness
     c.   Possessiveness
     d.   Generosity

2. The concept of integrated development means that interventions should consider:

     a.   any motor needs before communication needs.
     b.   one domain at a time.
     c.   all domains at the same time.
     d.   any domains that have demonstrated needs.

3. Jack is two years old, has significant motor impairments that limit the use of his mouth and hands, and has no form of functional communication. At this point, a possible intervention strategy is to:

      a.   keep working only on verbal communication so he learns to talk.
      b.   request an AT assessment to determine augmentative communication options.
      c.   pair interventions of sign language with verbal communication.
      d.   implement interventions that address other developmental needs.

Description:

Typical and Atypical Child Development. Understanding typical and atypical child development – both the expected behaviors and the quality of those behaviors – is the foundation for designing interventions. General principles guide developmental progression. These principles include:

- Mass activity is replaced by specific responses. For example, a child uses pointing to communicate any number of wants then progresses to specific words for different wants.
- Innate constitution, culture, family, community and opportunity influence development.
- Development is a continuous process but progress is non-continuous. There is uneven progress across developmental domains and the rate of development varies with **individual** starts, spurts, delays and patterns (Shonkoff & Phillips, 2000).
- Competencies fluctuate at developmental transitions. For example, the three month transition is a time when the child is moving from primarily reflexive, less voluntary behaviors to intentional, voluntary behaviors. These transitions however, are also optimal times for interventions (Brazelton, 1992).
- Progress is best made when the opportunity (intervention) provided is aligned with what the child is ready to learn. Opportunities must be "just enough" of a challenge so that the child has to persist to achieve the goal, but not so hard that the child does not conceptually understand what is expected of him/her (Keilty & Freund, 2004).

Strengths and needs in the domains of physical (i.e., motor and sensory) development, cognition, communication, adaptive behavior, and personal-social development illustrate the child's functioning in routine activities.

Motor competencies in infancy and toddlerhood include acquisition of coordinated mobility, such as rolling, crawling, walking and running, postural stability to remain upright, learning transitional movements (e.g., moving from sitting to crawling), eye hand coordination for reaching, grasping, and manipulating, and visual-perceptual coordination. Abnormal muscle tone – where the muscle tone is too low (hypotonicity) or too high (hypertonicity) – can influence motor competence. Atypical movements can be

uncoordinated, unbalanced or unmodulated (too fast or too slow). Sensory development includes hearing, vision, and sensory processing of tactile, kinesthetic and vestibular input.

Cognitive competencies demonstrate how a young child comes to learn about the world, progressing from concrete, exploratory behaviors to abstract, goal-directed pursuits. Cognitive competence includes learning properties of the world, persistence in achieving a task, object play behaviors, and using a range of problem solving strategies. Early executive functioning emerges in the first three years and includes the ability to attend to a task, organize materials, and plan next steps.

Communicative competencies traditionally fall under receptive and expressive communication. Receptive communication is understanding what is being communicated. Expressive communication is conveying one's thoughts, feelings, intentions, wants, etc. Young children communicate multiple intents such as requesting, responding, protesting, commenting, greeting, turn taking, and acknowledging. The range of communicative functions and the social and communicative appropriateness of communication modalities can be constrained in children with disabilities.

Adaptive behaviors are "…skills for meeting the demands of the child's multiple unique environments" (Horn & Childre, 2004, p.288) that affect the level of everyday caregiving tasks of the parent and the developing sense of competence of the child. Adaptive behaviors include eating, sleeping, assisting with dressing, following the "rules" or expectations of routine activities, and independent play.

Personal-social competencies include security and trust, curiosity, self-initiation, readiness for interaction with adults and peers, and a positive self-concept. Emotional regulation requires managing the range and intensity of emotions and emotional responses. At young ages, the caregiver provides a significant amount of emotional regulation, which the child is expected to take more responsibility for as s/he matures.

Child Development Theories and Research. Two theories that guide research and practice in child development and, subsequently, early intervention, are the *transactional models of development and intervention* and the *bioecological model*, both proposing that the child develops within the context of his/her environment.

Sameroff and Chandler (1975) proposed the *transactional model of development* based on a review of the risk research that illustrated neither biological nor environmental risk alone could predict a child's developmental outcomes. The transactional model states that a child's developmental outcomes result from the ongoing interplay of the child's characteristics, such as his/her temperament, health status, and developmental status (exemplified in child's behaviors), and the characteristics of the environment (primarily through caregiver behaviors). The influence is reciprocal in that child behaviors influence caregiver behaviors, and caregiver behaviors influence child behaviors. For example, if a child is difficult to engage, his caregiver may give trying to engage him, limiting the amount of interaction the child has. Or, the caregiver tries too hard to

engage the child, overstimulating the child. The child influenced the caregiver's behaviors, which results in negative consequences for development. However, if the caregiver builds on the child's subtle initiations to engage, the caregiver influences the child's behavior by supporting engagement. Since both child behaviors and caregiver behaviors influence developmental outcomes, the *transactional model of intervention* (Sameroff & Fiese, 2000a, 200b) states that interventions designed to promote development can focus specifically on the child's behavior such as the child's strengths and needs, the caregiver's behaviors such as creating a positive learning environment, or the caregiver's beliefs, such as their perceptions of their child's competence, their ability to influence their child's learning and development, and their knowledge of developmental expectations. Caregiver perceptions are included as an intervention target because they are expected to influence how a caregiver interacts with a child. The target of intervention can be the child, the caregiver or the caregiver's perceptions.

Bronfenbrenner (1979, 1999) proposed the *bioecological model*, which states that developmental outcomes result from the active interaction of the child with his/her immediate environmental context, known as the *proximal environment*, and the influences of other environments, or systems, with which the child is not directly involved. Bronfenbrenner (1999) acknowledged the transactional influence the child has on his/her proximal environments. Proximal environments, or *microsystems*, for infants and young children include activities that happen within their home, child care and/or the community, such as playgrounds, libraries and neighbor's homes. The relationship between the people in these different environments (known as *mesosystems*) also influences the child's development. For example, when parents and child care providers keep in communication so that they respond consistently to the child, the child has a predictable routine across settings from which to learn. Child development is also influenced, although less directly, by systems that the child is not directly a part of everyday (known as *exosystems*), such as early intervention programs. These programs influence child development by influencing the everyday proximal environments. Therefore, early interventionists work with the family and community providers to use intervention strategies in the routine activities in which the child participates. Finally, child development is influenced by society's culture, values and mores (known as the *macrosystem*). For example, federal legislation calling for early intervention systems that support all families with young children with disabilities exemplify the values that society should maximize each child's development by providing intervention supports and services to all, regardless of income or access to services.

From these two theories and related research, the National Research Council (Shonkoff & Phillips, 2000) addressed the nature/nurture debate by summarizing, "It is time to reconceptualize nature and nurture in a way that emphasizes their inseparability and complementarity, not their distinctiveness: it is not nature *versus* nurture, it is rather nature *through* nurture" (p. 41). Interventions can be designed to affect the child's environment, as well as the child, to promote learning and development. Bronfenbrenner (1993, 1999; Bronfenbrenner & Ceci, 1994) identified three conditions necessary for an environment to promote child learning. The environment must provide

learning opportunities that (1) occur repeatedly and (2) over time so that the child has multiple opportunities to practice and gain mastery, and (3) contain "developmentally instigative characteristics" (Bronfenbrenner, 1993, p. 23) that become more complex over time to continue challenging the child. The first two conditions provide a rationale for coaching family members and other caregivers, so they can provide those repeated opportunities in between intervention visits. The latter condition is the role of the interventionist – to take those everyday, repeated activities and provide intervention strategies that promote child to learning and participation in increasingly complex ways.

Because the environment can promote or impede learning, a child can be more competent in one context over another. For example, when a child is interacting with an adult who provides adequate wait time, the child can respond. In another environment, the adult does not wait for the child to respond, which results in the child to learning his communication efforts are unsuccessful. The physical environment can also influence learning. When a child has an adaptive spoon, she can use it independently. If a regular spoon is used, which is too hard for the child, motivation and feelings of competence would decrease. Therefore assessing how the social and physical environment facilitate or impede the child's learning is critical to identifying how to build on or modify the current environment through intervention strategies.

Child development and intervention research has also resulted in the current knowledge that children do not learn nor function using one developmental domain at a time. Instead, children use their developmental competencies across domains and in light of their developmental needs, to carry out everyday activities. For example, a child who is playing in the sand box uses postural stability and his muscles to sit, grasp the shovel, scoop and dump the sand (i.e., motor), uses motivation and emotional regulation to keep calm and persist in attempts to use the sand tools (i.e., emotional), problem solves how to scoop and dump, understands the relationship between the shovel, sand and bucket (i.e., cognitive), and looks and smiles at his/her mother when a scoop of sand is successfully dumped into the bucket (i.e., social communication). Development occurs in an integrated, functional manner (Shonkoff & Phillips, 2000). Therefore, to maximize effectiveness, interventions should be designed according to the child's strengths and needs across domains. In the example above, the child is motivated and enjoys playing in the sand with his hands, but has not yet begun to use the sand tools. The interventionist can build on the child's strengths of social interaction and imitation by coaching his mother to first gain the child's attention then model scooping with her hands. Once the child imitates this, the mother then imitates scooping with the shovel and pouring the sand into the bucket and asking the child to "try" with his own tools. All domains of development are being facilitated at the same time, building on the child's strengths and addressing his needs.

Language and Communication Options. Functional communication is an essential task of early childhood in order to interact with others, convey thoughts and feelings and develop relationships. While verbal language is the traditional mode of communication, other language and communication options include manual communication systems such as gestures and sign language, and augmentative

communication methods that require technology to be implemented. These augmentative communication technologies can include the use of pictures, which may or may not be used with a specific program such as the Picture Exchange Communication System (PECS), or electronic communication devices. The electronic communication devices provide voice output options the child selects to express his/her intents. The communication option(s) chosen should be appropriate for the child's strengths and needs. For example, sign language would not be an appropriate strategy for a child with significant motor impairments that impacts hand use.

Sample Questions Revisited:

1. Infants develop which emotion in their first year:

    a.   Pride
    b.   Sadness
    c.   Possessiveness
    d.   Generosity

b. Sadness develops between 6 and 12 months. Pride, possessiveness and generosity develop in the second year.

2. The concept of integrated development means that interventions should consider:

    a.   any motor needs before communication needs.
    b.   one domain at a time.
    c.   all domains at the same time.
    d.   any domains that have demonstrated needs.

c. Children use all developmental domains together to function in everyday life. Child needs should be addressed while building on the child's strengths across domains.

3. Jack is two years old, has significant motor impairments that limit the use of his mouth and hands, and has no form of functional communication. At this point, a possible intervention strategy is to:

    a.   keep working only on verbal communication so he learns to talk.
    b.   request an AT assessment to determine augmentative communication options.
    c.   pair interventions of sign language with verbal communication.
    d.   implement interventions that address other developmental needs.

b. See Language and Communication Options sub-section regarding the impact of communication on essential tasks of early childhood. Jack's disabilities are impacting oral and hand movements required for verbal and manual

communication, respectively. Determining an appropriate augmentative communication device will provide Jack the opportunity to initiate and engage in social communications with others.

Resources:

Websites:

ASHA AAC--Augmentative and Alternative Communication
http://www.asha.org/public/speech/disorders
Includes information on augmentative and alternative communication

National Institute on Deafness and Other Communication Disorders at NIH
http://www.nidcd.nih.gov/index.asp
Provides research and research training in the normal and disordered processes of hearing, balance, smell, taste, voice, speech, and language.

Zero to Three: Brainwonders
http://www.zerotothree.org/brainwonders/
Provides information about typical developmental expectations.

PBS: The Secret Life of the Brain
http://www.pbs.org/wnet/brain/
For information about how the brain functions, including the anatomy of the brain and technologies for exploring the brain.

Literature:

Howard, V., Williams, B., & Lepper, C. (2005). Very *young children with special needs: A formative approach for today's children, 3rd edition.* Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.

Shonkoff, J., & Phillips, D. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development.* Washington, DC: National Academy Press. Access at www.nap.edu

Trawick- Smith, J. (2003). *Early childhood development: A multicultural perspective, 3rd edition.* Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

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Planning and Implementing Interventions

Rationale:

The effectiveness of early intervention practice depends on interventionists' ability to draw upon and use multiple intervention methods and materials to address different developmental needs, individualize those methods to the unique characteristics of the child, family, and routine activities, and convey the resulting individualized intervention strategies in such a way that family members or other caregivers can confidently and effectively use those strategies in between intervention visits. Of primary importance, issues of safety must be addressed prior to any interventions occurring so that they child can safely explore and participate in routine activities.

Relevant Indicators:

SD3 Incorporate a variety of techniques to support learning, including assistive technology

SD4 Coach family/caregivers and model skills and intervention strategies for integration into daily routines

SD6 Select or develop functionally and developmentally appropriate materials and equipment

SD7 Select and implement methods of behavioral support and management appropriate for infants/toddlers with special needs

SD24 Knowledge of techniques to support infant and toddler learning (e.g., responsive teaching, prompting, reinforcement)

SD25 Knowledge of infant/toddler intervention techniques, such as positioning and handling, total communication, and facilitating peer interaction

SD26 Knowledge of safety precautions (e.g., childproofing home, child safety seats, SIDS)

SD27 Knowledge of adaptive and assistive technology (e.g., how to access, how to incorporate into the child's natural environments)

SD34 Knowledge of adult learning principles and styles (e.g., families, colleagues, caregivers)

SD35 Knowledge of coaching and modeling techniques for adults

1. Which of the following is an example of contextualized coaching in routine activities?

   a. The interventionist demonstrates the strategies, and encourages the parent to try the strategies, using a variety of toys found in the family's play room.
   b. The interventionist demonstrates the strategies, and encourages the parent to try the strategies, using toys from the interventionist's toy bag.
   c. The interventionist demonstrates the strategies, and encourages the parent to try the strategies, during singing games the parent and child enjoy doing together.
   d. The interventionist demonstrates the strategies during singing games the parent and child enjoy doing together.

2. Materials used in coaching caregivers in the use of specific intervention strategies should be:

   a. the same materials the caregiver uses in between intervention visits.
   b. materials that will promote child engagement during intervention visits.
   c. high tech, specialized equipment over low tech, common materials.
   d. the same materials used for all the families you support.

3. During a home visit, the father tells you that Carlos has been biting his twin sister. You:

   a. acknowledge how stressful it is but explain all children go through a "biting phase"
   b. tell him to put Carlos in time out whenever he bites.
   c. try to figure out why Carlos has begun biting.
   d. tell him to give Carlos something to chew on to stop his biting.

4. Tony is learning to eat with cereal with an adaptive spoon. His father takes Tony's hand and helps him scoop the cereal, and bring the spoon to his mouth, then allows Tony to independently put the spoon in his mouth to eat. After a few bites like this, Tony's father helps Tony scoop the cereal and bring the spoon half-way to his mouth, then allows Tony to independently bring the spoon the rest of the way to his mouth to eat. This is an example of:

   a. successive approximations.
   b. forward chaining.
   c. backward chaining.
   d. positive reinforcement.

5. Charlie's mother asks you to come to their weekly community toddler group to provide suggestions on facilitating peer interactions between Charlie and the other children. She is concerned that he does not play with the other child while they are at the play group. One possible strategy to facilitate peer interaction is to:

    a.   suggest that the play group facilitator provide a sufficient amount of toys that are independently explored, such as puzzles, shape sorters or books.
    b.   ask the play group facilitator if you can explicitly teach a lesson on sharing through story time and guided discussion.
    c.   suggest that the play group facilitator provide toys and materials that support playing together and sharing materials such as a sand box, dress-up and play doh.
    d.   continually play with Charlie and mediate interactions with other children when they are near Charlie.

6. The National Highway Traffic Safety Administration recommend that infants sit in their safety seats facing the rear until they:

    a.   turn one year old.
    b.   weigh twenty pounds.
    c.   do not tolerate facing the rear.
    d.   are one year old and twenty pounds.

7. The Birth to Three System will pay for assistive technology that is:

    a.   life sustaining.
    b.   under $250 to purchase.
    c.   durable medical equipment.
    d.   requested before the child turns three.

8. According to adult learning principles, adults prefer to learn:

    a.   by watching and listening.
    b.   by actively participating.
    c.   everything about a topic.
    d.   general concepts.

9. Karen, an early interventionist, is coaching Julia, a child care provider, to position Michelle to sit independently during story time. Karen showed Julia how to position Michelle's legs, while at the same time describing what she was doing and what she was feeling in Michelle's legs. Julia tried to position Michelle. Karen said Julia positioned Michelle perfectly and asked if Julia felt comfortable positioning Michelle like this everyday. Which aspect of coaching or consultation did Karen **_not_** use?

      a.   Explaining
      b.   Demonstrating
      c.   Practicing
      d.   Feedback

10. Responsive teaching strategies include:

      a.   facilitating child interest in developmentally appropriate activities.
      b.   building on activities in which the child is attentive and interested.
      c.   using a directive interaction style so the child knows to respond.
      d.   all of the above.

Description:

      Coaching and Consulting with Others. Two early childhood developmental principles (described in the Infant-Toddler Development Section) guide the use of coaching and consultation to implement intervention strategies: (1) integrated development where interventions are maximized by addressing all developmental domains and (2) repeated opportunities to practice behaviors within the context in which the child will use those behaviors. These two principles result in interventionists coaching and consulting with each other so that team members are able to implement intervention strategies across disciplinary domains; and interventionists coaching and consulting with families and other caregivers so they are able to effectively use the intervention strategies in between visits (McWilliam, 2000a).

Coaching and consultation strategies begin with adult learning principles. For adults to appreciate and be motivated to learn and apply what is being "taught," learning must:

- _Build on the adult's life experiences_ by tailoring the learning to what the adult already knows and has done. For example, an interventionist would discuss a childcare provider's previous experiences with children with disabilities to integrate the provider's current knowledge and perceptions into the consultation.
- _Respect_ the learner's ability level, time, position (e.g., parent, disciplinary provider), and the competencies that come with that position.
- _Be relevant_ to the adult by addressing his/her specific concerns, whether it is a speech therapist uncertain of implementing positive behavior supports or a parent who wants to help her child to play with other children on the playground.

- *Promote confidence and competence* so that the adult can accurately and self-assuredly use the intervention strategies when the coach/consultant is not present.
- *Provide active participation* on the part of the learner to observe, ask questions and try out the intervention strategies.

Coaching and consultation strategies build upon these adult learning principles and consider "what it takes" for the individual to confidently and competently learn the intervention strategy. Four coaching and consultation strategies are:
- *Explain* the intervention strategy and the how the strategy will promote child learning and development and, most directly, address the caregiver's concerns. Adults need a reason to learn what one is asking them to learn.
- *Demonstrate* the intervention strategy so that the adult can see how "an expert" implements the strategy. For this to be true modeling, the adult should be actively involved in this process by listening to the interventionist describe what she is doing, watching what the interventionist is doing, asking questions and describing what the adult is seeing the interventionist do.
- *Practice* the intervention strategy in the presence of the interventionist so that (1) both the interventionist and adult know that the adult can effectively use the strategy and (2) the adult feels confident that s/he can use the strategy effectively.
- *Feedback* is provided in both directions. The interventionist provides feedback to the adult regarding his/her implementation of the intervention strategy; the adult provides feedback on his/her comfort using the intervention strategy, critical to caregiver follow through in between intervention visits.

Coaching and consulting with family members and other caregivers should occur within the contexts in which they are to use the intervention strategies. If the outcome is for the child to walk from the car to the grocery store and back, then learning the intervention strategies should occur between the car and the grocery store. As stated previously, children function differently depending on the context. If caregivers are coached in a different environment than the one they will be applying the strategies, unexpected incidents may occur for which the caregiver was not prepared. And, since most caregivers are not "experts" in the intervention strategy, they might not be able to generalize the strategies to the new context. For example, walking might be practiced between the house and the car, where there are few distractions, a flat surface, and full support can be provided to the child. However, when walking from the car to the grocery store, the caregiver is unprepared for the child reaching out to touch each car and losing balance, the traffic of the parking lot making walking slowly with the child stressful, and trying to balance the child's support needs and pushing the shopping cart at the same time. If the interventionist coached the caregiver at the grocery store parking lot, she would have been familiar with, and could provide strategies for, managing that specific context. Therefore, to maximize the caregiver's ability to use intervention strategies and minimize caregiver frustration with the intervention strategies, coaching and consultation with families and other caregivers occurs during the routine activities identified in the IFSP outcomes and objectives.

Intervention Methods. Children have a natural tendency to explore and learn. Intervention can be considered facilitators to promote this natural tendency. In fact, Shonkoff and Phillips (2000) summarize the intervention literature as such:

> *In the final analysis, all abilities and behaviors unfold within boundaries set by constitutional endowment, and all children (including those with developmental impairments) are primed biologically to seek positive adaptation. Thus, all effective interventions "work" by supporting those self-righting tendencies*
>
> (p. 397).

The following are frequently used intervention methods for infants and toddlers.

Quality *parent child interaction* has been positively associated with cognition, social-emotional development, peer interactions, and IQ. Kelly and Barnard (2000) identified four features of quality parent child interaction. The first feature is that both interactive partners have the capacity to interact. Infant interaction qualities are visual attention, adaptation to movement, soothability, emotional regulation, and both initiation and responsivity. Caregiver qualities include the ability and willingness to read and respond to the infants cues, engage and stimulate the infant, emotional involvement and responsiveness. Contingent responsiveness, or responding to the last person's initiation based on his/her intention, is the second feature of quality parent-child interaction. The last two features are specific to child learning – provision of development-enhancing learning opportunities and adaptation of the interaction over time as the child develops new competencies. Children with disabilities are at risk for less than optimal parent child interactions because of the potential for difficulty in reading or interpreting communicative cues, slower pacing of initiating and responding, and difficulty creating learning opportunities appropriate for the child's unique strengths and needs. Interventions that have focused on enhancing the four qualities of parent-child interaction, especially contingent responsiveness, have been shown to be effective for children with or at risk for developmental delays or disabilities.

Responsive teaching builds on parent-child interaction by encouraging caregiver responsiveness as a means to promote child learning. Responsive teaching strategies include "balanced, reciprocal interactions that are (1) matched to children's competencies, interests and style; (2) highly responsive to children's behaviors; (3) relatively non-directive; and (4) animated and emotionally arousing" (Responsive Teaching National Outreach Project, 2005, History section, ¶ 2).

Instructional strategies frequently used in early intervention are prompting, reinforcing, modeling and levels of assistance. *Prompts* can be gestural (e.g., pointing) or verbal ("pick one" or "What do you want?") and focuses the child's attention to the activity at hand or critical features of the activity. *Reinforcement* increases the likelihood that a child will repeat a desired behavior by giving a desired response (e.g., verbal praise) or removing something unwanted (e.g., the child responds "no" when the caregiver asks the child if she wants more juice). *Natural consequences* of a behavior should be used as a reinforcer as much as possible, or paired with an unnatural consequence (e.g.,

food for following directions), so the unnatural consequence can be faded out. *Modeling* involves gaining the child's attention, then verbally and/or physically demonstrating the desired behavior the child is expected to imitate. *Levels of assistance* use various amounts of support – full assist, partial assist, gestural prompts, and verbal prompts – to increase the probability of child achievement. Interventionists can begin with the most intensive support the child needs and reduce it as the child learns the task (most to least prompts) or begin with as little support as possible for the child to be successful and increase as needed (least to most prompts).

Positive behavior supports are applied under the assumption that a child's challenging behaviors are not malicious, but serving a purpose for the child. Positive behavior supports seeks to understand the purpose of the behavior then create intervention strategies by (1) modifying the environment to prevent the behavior from occurring, (2) teaching the child new strategies to achieve his/her goal to replace the challenging behavior and (3) ensure the new strategies are learned and reinforced while the challenging behavior is diminished (Fox, n.d.).

Total communication is an intervention method used for children with hearing impairments that combines multiple communication methods including manual sign, lip reading, and oral speech to maximize the child's ability to communicate with various individuals (Howard, Williams, & Lepper, 2005).

Positioning and handling are physical development techniques used to promote a child's functional competence by facilitating normal movement patterns, avoiding abnormal compensatory movements and maximizing independent movement. Howard and colleagues (2005) defined positioning as "the treatment of postural and reflex abnormalities by careful, symmetrical placement and support of the child's body" and handling as the "preparation of a child for movement and positioning" (p.296). Positioning and handling techniques include normalizing tactile, proprioceptive and kinesthetic input, pacing the positioning and handling so the child can adapt to the movement, and determining appropriate adaptive equipment needs so the child can move around and use different positions in his/her routine activities.

Use of Materials. Any materials selected for interventions should meet three components of maximizing interventions – child and caregiver engagement, contextualized interventions, and caregiver confidence and competence in using intervention strategies. To meet the latter two components, intervention materials should be used in the context of the family's routine activities both during and in between intervention visits so that family members can competently support their child's functioning and development. Materials should promote child competence in exploring and participating in routine activities, be developmentally appropriate for the child's chronological age, culturally relevant for the family and, as frequently as possible, common, ordinary items found in any home with young children.

Most materials brought to the intervention visit will be used to adapt the physical environment, one of the least intrusive ways to promote child functioning (Campbell,

2004). Adaptations can be made by adding materials (e.g., placing a sticky mat under objects to avoid knocking them over), substituting materials (e.g., an adaptive chair or spoon), or modifying materials (e.g., attaching Velcro to a rattle).

Adaptations that include adding, substituting or modifying materials can be considered assistive technology (AT). According to the federal regulations (Early Intervention Program for Infants and Toddlers with Disabilities, 1999), an

> *Assistive technology **device** means any item, piece of equipment, or product system, whether commercially off the shelf, modified, or customized, that is used to increase, maintain or improve the **functional capabilities** of children with disabilities* (Sec. 303.12(d)(1)).

Obtaining assistive technology is not an end in itself, but a means for addressing IFSP outcomes and objectives that are functionally and contextually relevant. There have been multiple reports of "AT abandonment" where the AT device was not used by the family or the child. Therefore, a comprehensive AT assessment should consider whether the AT device supports the child in achieving IFSP outcomes, is meaningful to the child and family, and matches practical needs, such as whether the family can transport and use the AT device in the identified routine activities (Long, et al., 2003). The assistive technology service guidelines (Assistive Technology Task Force, n.d., See Regulations, Procedures and Resources section) for services birth through 21 provides extensive information on assistive technology assessment, program planning, services and funding.

The *Procedures Manual* (Connecticut Birth to Three System, 2004 a) outlines accessing AT devices. Accessing equipment can begin at the NEAT Marketplace for potential reconditioned equipment and the Birth to Three System for recycled equipment. To obtain funding for AT devices, interventionists must first pursue other funding options, such as commercial insurance, Medicaid, Children with Special Health Care Needs, and the Board of Education Services for the Blind (BESB), before receiving funding through Birth to Three. Specific directions for accessing third party or Birth to Three reimbursement, as well as particular directions for hearing aid dispensing, are described in the *Procedures Manual.*

Child Safety. Ensuring child safety is the foundation for any intervention efforts promoting child learning and development. Safety precautions should be assessed and addressed with the family as part of creating an appropriate learning environment. The American College of Emergency Physicians (2005, ¶ 3) identified the following child safety precautions:
- Safety latches and locks on cabinets and drawers;
- Keep out of reach (considering the child's climbing potential): medicines (with childproof caps on), plastic bags, plants, toys with small parts and other choking hazards, vertical blind cords and electrical cords;
- Safety gates on steps and to block dangerous areas like the kitchen;
- Window guards and safety netting;

- Bumpers on corners;
- Outlet covers;
- Water temperature should be set at 120 degrees Fahrenheit; and
- An emergency release on doors to prevent the child from getting locked in.

In addition to general household safety, safety should be discussed with regard to the child's specific characteristics. For example, there should be special care taken in choosing a lock for a backyard gate with a child who has a tendency to run out of the backyard and into the street. Safety precautions with the use of intervention strategies, such as feeding guidelines to avoid choking, should also be clearly discussed with the family.

The National Highway Transportation Safety Administration provides general guidelines for child safety seat use (http://www.nhtsa.dot.gov/people/injury/childps/) based on child's age and weight. Interventionists should be aware of local resources to obtain child safety seats for families who cannot afford them. Information on local Connecticut State Police troops who conduct car seat installation inspections and car seat clinics can be found at http://www.state.ct.us/dps/dpspio/safety_seats.htm.

Sudden Infant Death Syndrome (SIDS) is categorized as an unexpected death of an infant less than one year of age that, after case investigation, no other cause can be identified. The number of SIDS incidents has significantly decreased since the initiation of the *Back to Sleep* campaign. It is recommended that infants sleep on their backs in cribs free from any soft materials such as blankets that can cover the child's face. The *American Academy of Pediatrics* (Committee on Fetus and Newborn, 2003) issued a policy statement that children with apnea are not at higher risk for SIDS, and apnea monitors do not prevent SIDS.

Sample Questions Revisited:

1. Which of the following is an example of contextualized coaching in routine activities?

   a. The interventionist demonstrates the strategies, and encourages the parent to try the strategies, using a variety of toys found in the family's play room.
   b. The interventionist demonstrates the strategies, and encourages the parent to try the strategies, using toys from the interventionist's toy bag.
   c. The interventionist demonstrates the strategies, and encourages the parent to try the strategies, during singing games the parent and child enjoy doing together.
   d. The interventionist demonstrates the strategies during singing games the parent and child enjoy doing together.

c. This is the only answer that satisfies both the coaching model, which requires providing an opportunity for the parent to try out the strategies to determine

competent and confident use of the strategies <u>and</u> contextualized interventions that occur in routine activities important to the family, such as singing songs.

2. Materials used in coaching caregivers in the use of specific intervention strategies should be:

      a.   the same materials the caregiver uses in between intervention visits.
      b.   materials that will promote child engagement during intervention visits.
      c.   high tech, specialized equipment over low tech, common materials.
      d.   the same materials used for all the families you support.

a. Intervention materials should increase caregiver competence. Child engagement during the intervention visit (b) is not effective if the caregiver does not know how to engage the child in between visits. Interventions must be implemented using the same materials as what the caregiver will use in between visits. Materials should be individualized (d) and as "ordinary" as possible (c).

3. During a home visit, the father tells you that Carlos has been biting his twin sister. You:

      a.   acknowledge how stressful it is but explain all children go through a "biting phase"
      b.   tell him to put Carlos in time out whenever he bites.
      c.   try to figure out why Carlos has begun biting.
      d.   tell him to give Carlos something to chew on to stop his biting.

c. Positive behavior supports begin with assuming all behaviors serve a purpose and systematically uncovering the underlying purpose of the behavior.

4. Tony is learning to eat with cereal with an adaptive spoon. His father takes Tony's hand and helps him scoop the cereal, and bring the spoon to his mouth, then allows Tony to independently put the spoon in his mouth to eat. After a few bites like this, Tony's father helps Tony scoop the cereal and bring the spoon half-way to his mouth, then allows Tony to independently bring the spoon the rest of the way to his mouth to eat. This is an example of:

      a.   successive approximations.
      b.   forward chaining.
      c.   backward chaining.
      d.   positive reinforcement.

c. Backward chaining is an instructional strategy where the last step of an activity is taught first, then support is lessened backwards through the steps until the entire task is learned. Forward chaining (b) begins with the first step of a task and moves forward. Positive reinforcement (d) is the addition or removal of

something after a child uses a desired behavior. Successive approximations are reinforcement of behaviors that are close to the expected behavior.

5. Charlie's mother asks you to come to their weekly community toddler group to provide suggestions on facilitating peer interactions between Charlie and the other children. She is concerned that he does not play with the other child while they are at the play group. One possible strategy to facilitate peer interaction is to:

    a.   suggest that the play group facilitator provide a sufficient amount of toys that are independently explored, such as puzzles, shape sorters or books.

    b.   ask the play group facilitator if you can explicitly teach a lesson on sharing through story time and guided discussion.

    c.   suggest that the play group facilitator provide toys and materials that support playing together and sharing materials such as a sand box, dress-up and play doh.

    d.   continually play with Charlie and mediate interactions with other children when they are near Charlie.

c. These environmental arrangements promote interactions among young children, creating opportunities for sharing, joining in play, and cooperating. (a) will decrease those opportunities. (b) is developmentally *inappropriate* for toddlers. (d) provides the available support to assist Charlie when opportunities arise, but constant interactions between adult and child can decrease other children's initiations toward the child.

6. The National Highway Traffic Safety Administration recommend that infants sit in their safety seats facing the rear until they:

    a.   turn one year old.

    b.   weigh twenty pounds.

    c.   do not tolerate facing the rear.

    d.   are one year old and twenty pounds.

d. The NHTSA recommends that children be *at least* one year <u>and</u> twenty pounds to sit facing forward in their car seat.

7. The Birth to Three System will pay for assistive technology that is:

    a.   life sustaining.

    b.   over $250 to purchase.

    c.   medical equipment.

    d.   requested before the child turns three.

b. The Birth to Three System will pay for AT equipment costing over $250. Programs are responsible for AT equipment that cost under $250. The Birth to Three System will not pay for life sustaining equipment (a) or AT requested after

the child turns 33 months of age (d). The Birth to Three System will not pay for medical equipment if it is not covered by insurance, Medicaid or other payment sources.

8. According to adult learning principles, adults prefer to learn:

      a.   by watching and listening.
      b.   by actively participating.
      c.   everything about a topic.
      d.   general concepts.

b. Adults want to be hands-on, active learners of content that is specific and relevant to them. Watching and listening (a) does not actively engage the adult. Adults do not necessarily want to know general concepts (d) or everything (c) about a topic, but only those concepts relevant and applied to their life.

9. Karen, an early interventionist, is coaching Julia, a child care provider, to position Michelle to sit independently during story time. Karen showed Julia how to position Michelle's legs, while at the same time describing what she was doing and what she was feeling in Michelle's legs. Julia tried to position Michelle. Karen said Julia positioned Michelle perfectly and asked if Julia felt comfortable positioning Michelle like this everyday. Which aspect of coaching or consultation did Karen **_not_** use?

      a.   Explaining
      b.   Demonstrating
      c.   Practicing
      d.   Feedback

a. Karen did not explain the rationale for using the positioning techniques as a means to promote Michelle's participation in story time.

10. Responsive teaching strategies include:

      a.   facilitating child interest in developmentally appropriate activities.
      b.   building on activities in which the child is attentive and interested.
      c.   using a directive interaction style so the child knows to respond.
      d.   all of the above.

b. By definition, responsive teaching means that the caregiver is responsive to the child's interests by building engagement and expanding competencies within those interests. Caregiver directiveness (c) and redirection to another activity (a) are not strategies encompassing the responsive teaching technique.

Resources:

Websites:

Coaching and Consultation

Coaching in Natural Environments
http://www.coachinginearlychildhood.org/
Part of the *Puckett Institute,* provides summaries, descriptions and case studies on coaching and natural environments.

Intervention Methods

Research and Training Center on Early Childhood Development: Center for Evidence-Based Practices
http://www.researchtopractice.info/
Part of the *Puckett Institute,* provides syntheses and summaries of research related to early intervention practices.

Responsive Teaching National Outreach Project
http://www.responsiveteaching.org
From *Case Western University*, includes resources and products related to responsive teaching.

Center for the Social Emotional Foundations of Early Learning
http://www.csefel.uiuc.edu/
From the *University of Illinois at Urbana-Champaign*, a national center focused on the social-emotional outcomes of young children. Resources available include training modules, effective practice summaries ("What Works Briefs") and practical ideas.

Early Childhood Behavior Project: Positive Approaches to Challenging Behavior of Young Children
http://ici2.umn.edu/preschoolbehavior/
From the *University of Minnesota Center for Early Education and Development*, provides resources, including presentations and case studies, on positive behavioral supports for young children.

Center for Evidence Based Practice: Young Children with Challenging Behavior
http://www.challengingbehavior.org
National center at the *University of South Florida,* provides syntheses of the evidence-base of practices to meet the needs of young children with challenging behavior.

Materials

Abledata
http://www.abledata.com/
Funded by the National Institute on Disability and Rehabilitation Research (NIDRR), provides objective information about assistive technology products and rehabilitation equipment available from domestic and international sources.

Alliance for Technology Access: We Can Play!
http://www.ataccess.org/resources/wcp/endefault.html
Provides ideas and strategies for promoting play in children with disabilities through assistive technology.

Assistive Technology Partners at the University of Colorado Health Sciences Center
http://www.uchsc.edu/atp/
Provides a compilation of services, projects, activities, and research dedicated to enhancing access to assistive technology. Includes "fast facts" and "resources" related to assistive technology in early childhood.

University of Buffalo Center for Assistive Technology: Let's Play! Projects
http://www.letsplay.buffalo.edu/
Provides ideas and strategies to promote play through access to play materials using AT.
Tots'N Tech Research Institute
http://tnt.asu.edu/
From *Arizona State University, Tempe,* and *Thomas Jefferson University*, explores the ways assistive technology can optimize children's learning and development.

Safety

National Institute of Child Health and Human Development
http://www.nichd.nih.gov/sids/sids.cfm
Provides materials and publications from the *Back to Sleep* campaign.

American SIDS Institute
http://www.sids.org
Provides resources on SIDS.

Literature:

Assistive Technology Task Force. (n.d.). *Guidelines for assistive technology.*
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Teaming and Collaboration

Rationale:

There can be many people comprising the early intervention team – different disciplinary providers, family members, professionals from other agencies and paraprofessionals. To make sure that everyone's perspectives are taken into consideration and to build consensus, early interventionists must build a team and facilitate an open discussion among all team members. Professional perspectives should be united so that families are receiving consistent information from providers. Since children develop and function across domains, all providers should be using the same intervention strategies across domains and disciplines during their intervention visits. Therefore, providers need to know how to collaborate in order to work with families in a consistent, developmentally integrated manner.

Relevant Indicators:

SD8 Incorporate information and strategies from multiple disciplines in the delivery of services

SD9 Ensure that services delivered by team members are consistent and complementary

SD11 Coordinate with providers outside of the *Birth to Three* system who also provide services to the child/family

SD31 Knowledge of communication principles and techniques to use with adults (e.g., active listening, reflection of feeling and content, questioning techniques)

SD32 Knowledge of team building principles and techniques

SD36 Knowledge of principles and techniques to facilitate adult discussion and participation (e.g., IFSP meetings, transition conferences)

Sample Questions:

1. In transdisciplinary teaming, interventionists:

      a.   apply intervention strategies from other disciplines under consultation from that discipline.
      b.   talk with team members from other disciplines about the separate interventions each team member is implementing with the family.
      c.   apply intervention strategies from other disciplines in a team comprised of the primary interventionist and family members.
      d.   work on one developmental domain at a time in routine activities.

2. When families are receiving supports and services from programs outside of the Birth to Three program, intervention team members should:

      a.   ask the family about the outcomes the other program(s) is addressing.
      b.   tell the providers in the other program(s) the goals of early intervention.
      c.   send the evaluation/assessment report to the other program(s).
      d.   collaborate and coordinate with the providers in the other program(s).

3. Open ended questions:

      a.   expect an either/or response.
      b.   lead the responder.
      c.   extend the conversation.
      d.   are vague in their meaning.

4. Shared leadership is when:

      a.   all team members are leaders at the same time.
      b.   all team members are leaders in their area of expertise.
      c.   parents are the identified leaders of the team.
      d.   interventionists are the identified leaders of the team.

5. To effectively facilitate meetings, ground rules should be:

    a.   agreed upon as a group.
    b.   announced by the leader.
    c.   used infrequently for free flowing discussion.
    d.   implicit and therefore do not need to be addressed.

6. A decision is made by consensus when:

    a.   the majority of team members agree with the decision.
    b.   all team members agree with the decision.
    c.   the parent agrees with the decision.
    d.   the service coordinator merges disparate ideas to reach a decision.

Description:

Communicating and Team Building. Communication and team building are interdependent practices to effective early intervention. Briggs (1996) describes a team as "a group of individuals who are committed to a shared purpose, to each other, and to working together to achieve common goals" (p.14). Early intervention teams are comprised of family members, the service coordinator, the primary care physician and, depending on the individual characteristics of the child and family, a variety of early intervention providers, community providers such as early childhood educators, and providers from outside agencies. Communication is the crux of building and sustaining an effective relationship among team members.

Effective communication strategies include active listening, extending the conversation and ensuring accurate understanding of the messages conveyed. *Active listening* occurs when the receiver is listening in such a way to *understand* what the sender is communicating from the sender's perspective, as opposed to the listener's perspective. Beckman, Frank and Newcomb (1996) identified three elements of active listening:

- *Interpretation*, or accurately understanding the meaning of the message;
- *Evaluation* of the message conveyed to determine how to use the information; and
- *Responding* to what was said to *acknowledge* listening to and interest in the message and to extend the conversation.

One way to extend the conversation is questioning. *Questioning* provides an opportunity to gain more information, clarify the message, and expand the communication (Beckman, Frank, & Newcomb, 1996). The use of open-ended questions ("What more do we need to discuss?") provides an invitation for team members to add ideas or additional information, as opposed to closed-ended questions ("Are we done?") that usually limit the conversation. Other conversation extenders include *elaborating* on another team member's communication to gather and share more information on the topic, and *summarizing* the information conveyed across team members on a specific topic (Mulhearn Blasco, 2001). Team members can use *perception checks* to make sure their interpretation of the message is accurate. (Howard, Williams, & Lepper, 2005). This can occur by asking for *clarification* ("Is this what you meant?") or

paraphrasing ("So if I heard you correctly…"). *Reflection* paraphrases both what is said and the feelings the speaker is trying to convey.

Beckman, Frank and Newcomb (1996) suggest avoiding certain communication "pitfalls." Interventionists should examine their nonverbal behaviors to make sure they correspond to the meaning of the words being used. Interventionists should avoid verbal barriers to continuing a conversation, such as using "should" statements. Leading questions guide the listener into responding a certain way (e.g., "don't you think that speech supports every other week is appropriate?") instead of the listener responding honestly. Finally, disciplinary jargon should be restated in terms present team members can understand, or avoided all together.

Effectively communicating among team members demonstrates that each member's perspective is valid and included in the decision making process. Teaming occurs whenever at least two team members are interacting with one another to work toward the team's goals. This includes coaching between the family and interventionist or between two disciplinary team members, and holding IFSP meetings, transition meetings, and ongoing meetings to review and assess progress. Characteristics of effective teams include: (1) a clear, common goal to which all team members agree and are committed; (2) a clear plan of action to achieve the identified goals, including a plan for consensus decision making; (3) expertise among team members; (4) open and honest communication built on individual respect and trust; (5) leadership; (6) collaboration and recognition of the interdependence among team members; (7) ongoing evaluation of the plan; and (8) organizational support including sufficient time and resources (Briggs, 1996; Bruder, 1996; Howard, Williams, & Lepper, 2005). Team building is a developmental process. While different models of team development have been proposed, common "stages" include getting to know one another, clarifying and understanding each team member's perspectives, developing a shared vision and common goals, and implementing the team plan. Briggs (1996) outlined the developmental process of building a team. In the initial stage of teaming, members are getting to know each other ("forming"). At this point, team building centers on identifying and agreeing to the goals of the team (e.g., IFSP outcomes and objectives), creating shared leadership where each team member is a leader and valued for his/her area of expertise, identifying specific roles and responsibilities of each team member such as the primary interventionist, consulting interventionist and active family participation, and specifying the rules for team interactions including effective communication and open collaboration (Briggs, 1996; Bruder, 1994, 1996). The team also determines teaming processes such as how problems will be solved, meetings will be structured, progress will be evaluated and decisions will be reached. Usually, decisions are made by consensus, where an agreement is reached that satisfies each team member's perspective. As the team continues to build, there may be a focus on the differences among team members and their perspectives ("storming"). Power struggles may arise. During this time, the early intervention team might be unsure of the primary provider model and disciplinary providers might be hesitant to release their established role. Team building at this point centers on focusing team members to the goals, reminding them of the roles and responsibilities designated for each team member, acknowledging

each team member's expertise by fostering shared leadership, and allowing team members to express their feelings. As the team continues to evolve, there is a period of collaboration and commitment to the team, its strategies, and a strong focus on the goal ("norming"). At this point, team members recognize their strengths as their personal contribution to the team, as well as the contribution of other team member's strengths that, together, are more effective than each team member's contribution alone (Briggs, 1996). At this point, the group is truly a team, which leads into a time of high productivity, uncomplicated conflict resolution and an appreciation for differences among team members ("performing").

Throughout the teaming process, team meetings are facilitated through an agreed upon set of ground rules, meeting time and place, and open and honest communication while respecting each team member's feelings. When facilitating meetings, family members should have an opportunity to speak first and often. Briggs (1996) identified a variety of ways to ensure active participation of all meeting participants. In addition to the effective communication strategies described above, the facilitator should:

- Ask for and encourage different points of view and feelings about the topics on the table;
- Ask for a summary of the meeting points;
- Ask for participation from those who have yet to contribute;
- Create guidelines for speaking so interruptions are limited;
- Survey the entire group; and
- Remind team members of the agreed upon rules.

These communication, team building and meeting facilitation techniques will promote effective transdisciplinary supports and services.

Transdisciplinary Supports and Services. The transdisciplinary team model approaches supports and services according to the way children function in routine activities – by integrating developmental domains (See Infant-Toddler Development section). In transdisciplinary teaming, interventions are designed to address all areas of a child's development and functioning, instead of focusing on just one developmental domain at a time. Therefore, interventionists must apply strategies across disciplines to create comprehensive interventions that promote functioning in routine activities.

In the transdisciplinary model, the entire intervention team is responsible for and working on the same outcomes and objectives. Therefore, one interventionist is usually chosen as the primary professional who works with the family. Other interventionists coach and consult with the family, other caregivers and the primary interventionist to design and support the implementation of the integrated intervention. Transdisciplinary teaming requires ongoing communication and collaboration to ensure that all supports and services provided across professional team members are aligned.

The DEC recommended practices specific to transdisciplinary service delivery are "intervention is focused on function, not services" and "professionals cross disciplinary boundaries" (McWilliam, 2000b, p. 53). While early interventionists retain their expertise

within their discipline, they use it in a different way, by coaching and consulting with other team members. To implement the transdisciplinary service model, team members must be willing to share their knowledge and expertise with others and learn new knowledge and strategies from other team members. The transdisciplinary team model is endorsed "because it: 1) prevents the fragmentation of services along disciplinary lines, 2) avoids duplication of services, 3) views the whole child's development as integrated, and 4) emphasizes the importance of the family as equal, contributing members of the team" (Kilgo, et al., 2003, p.2).

Interagency Collaboration. Birth to Three is only one program designed to meet the priorities and concerns of families with young children. Many other programs (e.g., Early Head Start, mental health agencies, and medical services) provide supports and services outside the purview of Birth to Three. Collaboration with these programs is necessary to ensure that (1) all the supports and services needed by the family are being provided, (2) programs are providing consistent, as opposed to contradictory, supports, and (3) programs are providing complementary, as opposed to duplicated, supports. Similar to teaming within the early intervention team, collaboration with providers in other agencies requires ongoing and open communication, clear and mutually agreed upon goals, and articulated roles and responsibilities.

Sample Questions Revisited:

1. In transdisciplinary teaming, interventionists:

    a.   apply intervention strategies from other disciplines under consultation from that discipline.
    b.   talk with team members from other disciplines about the separate interventions each team member is implementing with the family.
    c.   apply intervention strategies from other disciplines in a team comprised of the primary interventionist and family members.
    d.   work on one developmental domain at a time in routine activities.

a. Transdisciplinary teams recognize and use the expertise of disciplinary team members through coaching and consultation with other team members, as well as family members. All team members are addressing the same, integrated goals and interventions.

2. When families are receiving supports and services from programs outside of the Birth to Three program, intervention team members should:

    a.   ask the family about the outcomes the other program(s) is addressing.
    b.   tell the providers in the other program(s) the goals of early intervention.
    c.   send the evaluation/assessment report to the other program(s).
    d.   collaborate and coordinate with the providers in the other program(s).

d. Ongoing collaboration and open communication will ensure that the supports provided from each agency are complementary with each other and avoids duplication of supports.

3. Open ended questions:

      a.   expect an either/or response.
      b.   lead the responder.
      c.   extend the conversation.
      d.   are vague in their meaning.

c. Open ended questions are specific, as opposed to vague (d), to the conversation at hand, but allow the responder to expand on his/her response. Closed ended questions result in an either/or response (a). Leading questions (b) attempt to guide the responder to answering in a certain way.

4. Shared leadership is when:

      a.   all team members are leaders at the same time.
      b.   all team members are leaders in their area of expertise.
      c.   parents are the identified leaders of the team.
      d.   interventionists are the identified leaders of the team.

b. Shared leadership recognizes the expertise of each team member, including the family, and expects the expert to lead in his/her area of expertise.

5. To effectively facilitate meetings, ground rules should be:

      a.   agreed upon as a group.
      b.   announced by the leader.
      c.   used infrequently for free flowing discussion.
      d.   implicit and therefore do not need to be addressed.

a. To ensure that meeting participants feel ownership over and are familiar with the expected meeting process, ground rules for the particular meeting should be identified and agreed to by the entire group.

6. A decision is made by consensus when:

      a.   the majority of team members agree with the decision.
      b.   all team members agree with the decision.
      c.   the parent agrees with the decision.
      d.   the service coordinator merges disparate ideas to reach a decision.

b. Consensus occurs through a willingness to come to a common decision where all team members are comfortable with the result.

Resources:

Websites:

Setting the Stage
http://www.nectac.org/~meetings/national2003/OSEPprimaryproviderinNE.ppt
2003 NECTAC Powerpoint Presentation by Carl Dunst, and colleagues.

Literature:

Beckman, P. (1996). *Strategies for working with families of young children with disabilities.* Baltimore, MD: Paul H. Brookes Publishing Co.

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Bruder, M. B. (1994). Working with members of other disciplines: Collaboration for success. In M. Wolery & J. S. Wilbers (Eds.), *Including children with special needs in early childhood programs* (pp. 45-70). Washington, DC: National Association for the Education of Young Children.

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Horn, E., Ostrosky, M., & Jones, H. (2004). *The young exceptional children monograph series 6: interdisciplinary teams.* Longmont, CO: Sopris West.

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McWilliam, R. (1996). *Rethinking pull-out services in early intervention: A professional resource.* Baltimore, MD: Paul H. Brookes Publishing Co.

McWilliam, R. A. (2000a). It's only natural…to have early intervention in the environments where it's needed. In S. Sandall and M. Ostrosky (Eds.), *Young exceptional children monograph series no. 2: Natural environments and inclusion* (pp. 17-26). Longmont, CO: Sopris West.

McWilliam, R. (2000b). Recommended practices in interdisciplinary models. In S. Sandall, M. E. McLean & B. J. Smith, *DEC recommended practices in early intervention/early childhood special education* (pp. 47-54). Longmont, CO: Sopris West.

Rapport, M., McWilliam, R. & Smith, B. (2004). Practices across disciplines in early intervention: The Research Base. *Infants & Young Children, 17*(1), 32-44.

Ongoing Assessment For Intervention Decisions

Rationale:

Assessment is an integral part of intervention implementation. DEC recommended practices in child-focused interventions (Wolery, 2001) includes 5 practices under the topic of "Adults individualize and adapt practices for each child based on ongoing data to meet children's changing needs" (p. 35). Ongoing assessment provides the interventionist with information about whether the child is making progress and whether any progress can be attributed to the intervention. Child progress includes (1) advances in overall child development, which is not specifically targeted in early intervention, but expected to progress as individual goals are met, and (2) gains toward meeting IFSP outcomes and objectives, which are the specific targets of interventions. Collecting objective, measurable data is necessary for accountability – making sure the interventions are actually making a difference – and program planning (e.g., next outcomes, objectives and strategies on the IFSP).

Relevant Indicators:

SD1 Assess and document progress toward IFSP outcomes and objectives based upon measurable criteria

SD2 Ongoing review of child and family outcomes and intervention strategies with various members of a transdisciplinary team to obtain input and suggestions

SD10 Conduct ongoing curriculum-based assessments to measure overall child development.

SD28 Knowledge of data collection techniques

Sample Questions:

1. The most authentic and reliable documentation of progress toward IFSP outcomes and objectives is collected:

   a.   in between intervention visits during routine activities.
   b.   during intervention visits through parent report.
   c.   during intervention visits using a curriculum based assessment.
   d.   at the IFSP meeting by reviewing the IFSP outcomes and objectives.

2. The monitoring of program plans should include the extent:

        a.   progress is being made on IFSP outcomes in routine activities.
        b.   intervention strategies are effectively used by caregivers.
        c.   caregivers are comfortable with the intervention strategies.
        d.   all of the above.

3. Curriculum-based assessments should be used when the child enters Birth to Three and:

        a.   periodically to assess progress in overall child development.
        b.   periodically to assess progress in meeting IFSP outcomes.
        c.   again when the child exits Birth to Three.
        d.   every 6 months.

4. Data collection techniques include:

        a.   checklists.
        b.   written summaries.
        c.   videotapes.
        d.   all of the above.

Description:

Documenting progress on IFSP outcomes and objectives. There are two aspects of ongoing assessment for program monitoring -- progress on meeting outcomes and whether the intervention strategies are being used as they were designed -- both of which are assessed during and in between intervention visits.

The purpose of intervention is to increase child functional competence in individual routine activities. Therefore, intervention is only effective if the child uses the expected behaviors – the IFSP outcomes – during the routine activities in between intervention visits. Therefore, documentation of child progress should occur in between intervention visits. It is the responsibility of the interventionist to ensure that family members and other caregivers understand the importance of documenting child progress in between intervention visits and design data collection methods that suit the "data collector" (family or other caregiver). As documentation occurs, families can see objective evidence of the progress being made. Data collection during intervention visits can include an aggregation of the data collected in between visits, and more sophisticated assessment of progress, such as quality.

Identified as intervention integrity or treatment fidelity, interventionists must determine "the degree to which an intervention is implemented as originally designed" (Luze & Peterson, 2004, p. 21). This includes both the intensity and accuracy of intervention implementation. The primary provider model depends on the use of intervention strategies in between visits to ensure that the child has multiple opportunities (i.e.,

intensity) to practice new behaviors. If the family or other caregivers are not using the intervention strategies in the expected routine activities, the interventionist needs to know this in order to discuss why, which might be due to discomfort with the strategies or a lack of time to implement the strategies as designed. Collecting data on whether the family used the intervention strategies in the routine activities identified, and how many times in between visits, will provide information on intensity. But intensity does not tell the whole story. Effective implementation of intervention strategies is also necessary to make programming decisions. For example, if the family is effectively using the intervention strategies outlined, but the child is not making progress, the interventionist might determine that the intervention strategy is not appropriate for the child. However, if the family is not effectively using the strategy, and there is no documentation, the interventionist might think that the intervention strategy is not appropriate for the child, when the effectiveness of the intervention strategy is due to inaccurate implementation.

Transdisciplinary teaming in ongoing assessment. Transdisciplinary teaming occurs throughout the intervention process. Team members from across disciplines can support the primary interventionist in problem solving where interventions are falling short and determine alternative strategies or providing next steps in enhancing child learning and development. For example, a speech pathologist might problem solve with a physical therapist why a child still appears to be having difficulty sitting upright while eating despite using the adaptive seating adjusted by the physical therapist. The physical therapist, observing the child in the supported seat, might identify that the child needs more shoulder support than originally provided. Or, the speech pathologist might bring to the team that the child is progressing with eating. The physical therapist suggests that less support from the adaptive chair can provide just enough of a challenge for the child to develop more trunk support while eating.

Documenting overall child development. While intervention strategies address specific child outcomes and objectives, it is expected that overall child development would also advance. Therefore, curriculum based measures can provide a picture of overall child development while addressing child-specific functional outcomes and objectives on the IFSP. Curriculum based measures are used to document the mastery and emergence of child behaviors or skills over time, according to typical developmental progression. The Birth to Three System uses the *Hawaii Early Learning Profile*, or the *Carolina Curriculum for Infants and Toddlers with Special Needs* to identify a child's current and emergent skills. The items on curriculum-based measures are usually more generalized and functional than those on a norm-referenced instrument, providing an opportunity to observe the child in the routine activities to identify functionally-relevant development. Progress can be routinely assessed by returning to the curriculum based measure to update new achievements or emerging competencies. It should be noted that, depending on the sensitivity of the instrument, the discrete skills listed on the measure might not reflect qualitative nor small but not insignificant progress (See the Intervention Planning and Evaluation section).

Methods of collecting data. For assessing child progress in meeting IFSP outcomes and objectives, there are multiple ways of collecting data, the choice of which

will depend on the outcome or objective being measured and family preferences. Cooney and Buchanan (2001) identified authentic records of child behaviors, such as videotapes, audiotapes, photographs or child creations such as coloring or painting. Wolery (2004a) described two different data collection methods – narrative descriptions and judgment based monitoring, and direct behavioral observation.

Narrative descriptions and judgment based monitoring, while using an observation to document child behaviors, are more qualitative and descriptive in nature. Narrative descriptions are summaries of progress on outcomes and objectives written at the end of the day which includes the context in which the child's behaviors were observed. Families can be asked to keep a journal once a day to record child behaviors, such as the words a child said during the day or to describe how the child coped with certain routines. Or, for a family who finds data collection difficult, an interventionist might call every other day to document what the child ate (and the amount) for the past two days. While these data collection methods *could* also be used during the intervention visit, the interventionist must decide, depending on the frequency of visits, whether expecting a family member to remember the entire time in between visits is reasonable to yield reliable data. Judgment-based monitoring collects the perceptions of others about any aspects of the child's behavior, including the child's interest and engagement in the activity, persistence, and emotional responses such as enjoyment or anxiety. This data collection could occur during an intervention visit or noted in the family's journal record.

Direct behavioral observation involves observing and recording specific behaviors as they occur. Data collected can include:
- *Frequency:* How often a behavior occurs (e.g., how many tantrums during a trip to the grocery store);
- *Duration:* How long a behavior lasts (e.g., how long can the child hold his head up)
- *Latency:* How long to initiate a behavior (e.g., how long before the child responds to the parent's question by using an augmentative communication device)

Objective data collection methods include checklists, charts or matrices. Checklists state the expected behavior, or different variations of the behavior (one word, two words or specific words), that the family checks off when the behavior occurs. Charts can include a list of the objectives where the family can write the child's specific behaviors related to achieving the objectives. Matrices are tables that list the objective on the top of table and either times or routine activities on the side of the table (Raver, 2003). The family can either write what occurred in the box that corresponds to a specific objective and specific routine activity or check off that the objective was achieved. Using a code indicating the level of assistance needed or "how well" the child performed the behavior (e.g., 1 = didn't do it, 2 = did it partly, 3 = did it) can provide more specificity than a check mark, but requires less effort than a written description.

In terms of data collection to determine intervention integrity, interventionists can provide caregivers with a checklist of the specific steps to implementing the intervention strategies. The caregiver can check off each step used when supporting the child in achieving the objective. Also, observing the caregiver using the intervention strategy

during the intervention visit is another form of data collection, which creates an opportunity to provide feedback on intervention integrity.

Sample Questions Revisited:

1. The most authentic and reliable documentation of progress toward IFSP outcomes and objectives is collected:

        a.   in between intervention visits during routine activities.
        b.   during intervention visits through parent report.
        c.   during intervention visits using a curriculum based assessment.
        d.   at the IFSP meeting by reviewing the IFSP outcomes and objectives.

a. Data should be collected often to demonstrate progress over time. Parents may have a difficult time remembering the level of specificity necessary for reliable documentation if data are only collected by parent report at the time of the visit. Curriculum based assessments, while functional, are not specific to the contextualized IFSP outcomes.

2. The monitoring of program plans should include the extent:

        d. progress is being made on IFSP outcomes in routine activities.
        d. intervention strategies are effectively used by caregivers.
        d. caregivers are comfortable with the intervention strategies.
        d. all of the above.

d. All three choices are critical to make data-based decisions regarding whether to continue with the current intervention plan or to modify the plan, and what aspects of the plan to modify.

3. Curriculum-based assessments should be used when the child enters Birth to Three and:

        a.   periodically to assess progress in overall child development.
        b.   periodically to assess progress in meeting IFSP outcomes.
        c.   again when the child exits Birth to Three.
        d.   every 6 months.

a. While children must be assessed before exiting the Birth to Three System, the *Procedures Manual* (Connecticut Birth to Three, 2004a) states that "providers should…regularly update the information on the curriculum-based assessment in order to …track progress." Curriculum-based assessments provide overall developmental progress, but may not be directly related to the IFSP outcomes (b).

4. Data collection techniques include:

a. checklists.
b. written summaries.
c. videotapes.
d. all of the above.

d. All choices are data collection techniques.

Resources:

Literature:

Cooney, M., & Buchanan, M. (2001). Documentation: Making assessment visible. *Young Exceptional Children, 4*(3) 10-16.

Luze, G., & Peterson, C. (2004). Improving outcomes for young children by assessing intervention integrity and monitoring progress. *Young Exceptional Children, 7*(2) 20-29.

Raver, S. (2003). Keeping track: Using routine-based instruction and monitoring. *Young Exceptional Children, 6*(3) 12-20.

Wolery, M. (2004a). Monitoring children's progress and intervention implementation. . In M. McLean, M. Wolery, & D. Bailey (Eds.), *Assessing infants and preschoolers with special needs* (3rd ed, pp. 545-584). Englewood Cliffs, NJ: Merrill/ Prentice Hall.

Transition

Rationale:

Transitioning out of the Birth to Three System, whether to preschool special education, another early childhood program (e.g., community preschool, Head Start, or child care) or other family supports and services while the child is at home, is an uncertain time for many families. "Transition means change. For families, this change is often fraught with emotional challenges, as well as the challenge of engaging in an information exchange process with the professionals responsible for child services" (Hanson, et al., 2000, p. 291). As the professional who has been working closely with the family and knows their priorities and their child's learning and developmental patterns, the early interventionist shares and collaborates with the transition team, including preschool special education personnel and the family. The interventionist must provide accurate, honest information to the family about the transition process and the various service options of services and supports and support the family in advocating for their priorities within the parameter of the receiving program.

SD12 Educate parents regarding the differences between Birth to Three and special education and their rights in the educational system

SD13 Participate in transition activities identified in the IFSP's transition plan

Sample Questions:

1. A difference between the Birth to Three System and preschool special education is that, in preschool special education:

      a.   the parent is not a member of the planning team.
      b.   services are not provided in child care.
      c.   children with global developmental delays are not eligible.
      d. family-level outcomes are not addressed.

2. The intervention team creates and implements transition plans for:

      a.   children entering preschool special education.
      b.   children not entering preschool special education but requiring supports.
      c.   children who are no longer eligible for educational or developmental supports.
      d.   all children exiting the Birth to Three program.

Description:

      Differences Between Birth to Three and Special Education. Hanson and colleagues (2001; Hanson, 1999) identified transition as a very stressful time for families, especially because of the differences in the service delivery systems of early intervention and special education. During transition planning, the interventionist explains and discusses these differences in a manner that is understandable to the family and respectful of both systems' practices where one system is not *better than* the other, but different. Differences in early intervention and preschool special education include eligibility criteria, program focus, and service models.

      Children are eligible for the Birth to Three program when they have a diagnosed condition that has a high probably of resulting in a developmental delay, a significant developmental delay as evidenced on a norm referenced measure, or a significant developmental delay through informed clinical opinion (Connecticut Birth to Three, 2004a). These criteria are determined from a developmental perspective of how a child's functions in everyday life. Children are eligible for preschool special education if they are identified with "precise and distinct categories of disabilities including autism; deaf-blindness; deafness; hearing impairment; mental retardation; multiple disabilities; orthopedic impairments; other health impairments; social-emotional disturbance; specific learning disabilities; speech and language impairments; traumatic brain injury;

and visual impairments. Special education and related services are also provided to children who need such services to benefit educationally" Connecticut has chosen to include developmental delay as criteria for preschool special education eligibility. (Connecticut State Department of Education, Preschool Special Education section, Preschool special education program, ¶ 4). Eligibility is determined from an educational perspective of a child's functioning in school.

These two early childhood programs have a different focus, resulting from the different perspectives described above. Because the priorities and needs of families can impact their time and attention to their child's development, the Birth to Three program's focus is centered on the family as a whole, and supporting the family in fostering their child's development. While the family continues to be an important member of the educational team, the focus of preschool special education is specifically on the child – his or her educational strengths, needs and priorities. Therefore, family strengths and concerns are not included in the educational program plan. Because of these differences, the service models of these programs are also different. Birth to Three services are provided in the child's *natural environment*, those routine activities in which the child spends his or her everyday life. The interventionists consult and coach the family, "teaching" them how to apply the intervention strategies. Preschool special education program services are provided in the *least restricted environment (LRE)*, where the child is expected to spend the most amount of time as possible in educational settings with their nondisabled peers or in special classes or schools "only if the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily" (P.L. 105-117 20 U.S.C. 1412 Sec. 612 (a)(5)(A)). The special educator and related service providers either work directly with the child, or with the general education teacher in the child's class. Specific programmatic shifts that the interventionist must prepare the family for are the elimination of service coordination and the elimination or reduction of home visits (Mulhearn Blasco, 2001).

Early Interventionist's Role in Transition. As stated in the rationale, a transition occurs for all children exiting Birth to Three, whether or not the child is eligible for, or transitioning to, preschool special education. The service coordinator is responsible for most procedural components of a transition, such as creating a transition plan and coordinating referral to and a transition conference with the receiving program(s), such as preschool special education and/or other programs that will provide support to the family after transition (See the *Procedures Manual* for the specific procedures). However, all early intervention service providers are responsible for preparing the family for the transition as outlined in the transition plan and providing developmental and service information to the Planning and Placement Team (PPT). The transition plan lists the steps necessary to obtain the appropriate services and supports for the child and family. Hanson and colleagues (2000) identified four strategies to supporting families during transition: (1) preparing families over time for the transition and changes in service delivery systems; (2) sharing information between families and providers throughout the process to collaboratively determine the plan of services and next environment; (3) visiting potential next environments; (4) identifying a

primary person to provide support, including emotional support; (5) ensuring continuity of services; and (6) making sure the focus is on the child and his/her needs in the next environment and during transition. Children can be prepared for the transition by talking about and taking the child to visit the new program, planning for the change in routine and schedule, addressing separation concerns, and using strategies to facilitate the child learning skills that are a part of the next environment, including social skills (Rosenkoetter, Hains, & Fowler, 1994).

During transition, the receiving environment most likely would request information regarding the child's development, strengths, needs and learning style to make eligibility decisions and program plans. Early interventionists can provide a lot of important information in this area, which may require conversations or additional written statements. These transition duties – preparing the family, the child and the receiving program – will be part of the transition plan on the IFSP. In addition to the transition conference, the early interventionist may be invited to the PPT meeting where the IEP is created. The *Procedures Manual* (Connecticut Birth to Three System, 2004a) outlines the role of the interventionist during this meeting: "When invited, the role of the early intervention[ist]…is to provide up-to-date and relevant information about the individual child to help inform the school district personnel about the child, including the child's functional and developmental strengths and needs, the child's progress and the identification of *Birth to Three* services that the child and family have been receiving." This role will most likely become more important with the recent change in IDEA reauthorization requiring that the preschool special education team "consider" the family's IFSP when creating the IEP for preschool special education (Council for Exceptional Children, 2004). This addition to the law should facilitate the continuity in services between programs.

Sample Questions Revisited:

1. A difference between the Birth to Three System and preschool special education is that, in preschool special education:

>   a.   the parent is not a member of the planning team.
>   b.   services are not provided in child care.
>   c.   children with global developmental delays are not eligible.
>   d.   family-level outcomes are not addressed.

d. Parents are members of the Planning and Placement Team (PPT) (a). Services can be provided in the least restrictive environment, which might be child care (b). Children do not *have* to have an identified disability, but must benefit educationally from special education services. This can include children with global developmental delays who meet the eligibility criteria for preschool special education.

2. The intervention team creates and implements transition plans for:

        a.   children entering preschool special education.
        b.   children not entering preschool special education but requiring supports.
        c.   children who are no longer eligible for educational or developmental supports.
        d.   all children exiting the Birth to Three program.

d. Every child is required to have a transition plan to prepare for exiting the Birth to Three System and smoothly transitioning into next environments.

Resources:

Websites:

National Early Childhood Transition Center (NECTC)
http://www.ihdi.uky.edu/nectc
From the University of Kentucky Interdisciplinary Human Development Institute, provides a searchable database on research, policy and practice resources specific to transition.
Connecticut State Department of Education, Preschool Special Education
http://www.state.ct.us/sde/deps/Early/PreschoolSE/
Has information on the preschool special education program and transition to the program.

Literature:

Bruns, D., & Fowler, S. (2001). *Technical Report #4: Transition is more than a change in services: The need for a multicultural perspective.* University of Illinois at Urbana-Champaign: CLAS Institute.
      Access at http://www.clas.uiuc.edu/techreport/tech4.html

Walsh, S., Smith, B., & Taylor, R. (2000). *IDEA Requirements for Preschoolers with Disabilities: IDEA Early Childhood Policy and Practice Guide.*
      Access at http://www.cec.sped.org/law_res/doc/resources/detail.php?id=2039

Whaley, K., & Goode, S. (2004). *Minibibliography: Transitions from infant toddler services to preschool education.* NECTAC Clearinghouse on Early Intervention and Early Childhood Special Education.
      Access at http://www.nectac.org/~pdfs/pubs/transition.pdf.

Regulations, Procedures and Resources

Rationale:

State and federal policies, procedures, regulations and legislation provide minimum standards of how early intervention systems – the lead agency (DMR – *Birth to Three*), programs and providers – are expected to carry out the state and federally funded early intervention program. These expectations resulted from guidance and recommendations from early intervention leadership (researchers, administrators, providers and families) and leaders from other programs serving young children and families to ensure a certain standard of quality and to protect families and young children. Knowledge of these policies and procedures is necessary not only to be able to follow them as programmatic directives, but also to understand what leaders in the field agree is best practice. It is recommended that early interventionists should further explore and investigate any policies and procedures they do not understand. State and national organizations are a resource that can support this investigation, as well as support early intervention practices directly related to early intervention supports and services and more general practices relevant to any professional working with families and young children.

Relevant Indicators:

SD14 Knowledge of Birth to Three service guidelines, policies and procedures

SD15 Knowledge of applicable federal, state and program regulations, standards and procedures

SD16 Knowledge of state mandates regarding children and families (e.g., abuse and neglect reporting standards, HIV confidentiality)

SD 17 Knowledge of quality assurance outcomes and indicators (e.g., parent surveys, file reviews)

SD37 Knowledge of available state and national organizations

Sample Questions:

1. The service guidelines for infant mental health recommend that interventions for all children should include all of the following *except*:

    a.   therapy around parent child relationships.
    b.   guidance on behavioral developmental issues.
    c.   assistance reading child communicative cues.
    d.   building family support.

2. A child care provider must provide reasonable accommodations for a child with disabilities to successfully participate in child care according to which federal legislation:

     a.   *Americans with Disabilities*
     b.   *Individuals with Disabilities Education*
     c.   *No Child Left Behind*
     d.   *Head Start*

3. If a parent tells you of his/her HIV status, you should:
     a.   assure the parent that you will keep the information confidential.
     b.   confidentially tell only other team members working with the family.
     c.   ask if the child is also HIV positive.
     d.   confidentially tell your supervisor.

4. Focused monitoring topic areas include:

     a.   eligibility evaluation.
     b.   interagency collaboration.
     c.   service delivery.
     d.   family outcomes.

5. Your team wants to review a specific assessment instrument to decide whether your agency should buy it. The best possible resource in Connecticut is:

     a.   *NEAT*
     b.   *CPAC*
     c.   *SERC*
     d.   *Infoline*

Description:

       Birth to Three Guidelines, Policies and Procedures. The Connecticut Birth to Three System has issued service guidelines in the areas of autism, natural environments, speech delays, infant mental health, children who are hard of hearing or deaf, nutrition and assistive technology. These service guidelines can be accessed at the Connecticut Birth to Three website at http://www.birth23.org/publications.

The autism service guidelines (Connecticut Birth to Three System, 2002) identify 10 principles of intervention for young children with autism spectrum disorder (ASD):
     (1)   The earliest possible start to intervention is essential.
     (2)   Services must be individualized for children and families based on the child's strengths, needs and interests and the family's concerns, priorities and resources.
     (3)   Children with ASD require intensive engagement in purposeful, appropriate, goal-directed behavior throughout the day with interventionists and family members. This guideline includes the

recommendation of 15 to 20 clock hours per week of *Birth to Three* services, with the precise number based on the characteristics and priorities of the family and child including the age of child, rate of progress, child's health, child's tolerance and family involvement. This principle further states that younger children or those recently diagnosed might begin with fewer hours, such as 5 to 10 hours, and increase as needed.

(4)   Family involvement and participation is critical in order for them to develop ways for interacting and engaging with their child in routine activities.

(5)   Intervention is based on a developmental curriculum designed to address the specialized needs of children with ASD which include language, social interaction, play skills and interest.

(6)   Intervention is planful and systematic through assessment, program planning, teaching and measuring progress.

(7)   Challenging behaviors are addressed using positive behavioral supports based on a functional behavioral assessment.

(8)   Intervention should focus on developing communication skills to be successful socially, which may include alternative or augmentative communication approaches.

(9)   The development of social relationships is based on a child's ability to play and interact with others.

(10)   The transition from the Birth to Three System to preschool special education and related services should be well planned.

(Connecticut Birth to Three System, p.5)

The service guidelines for natural environments (Connecticut Birth to Three System, 1999b) advise continuity across all professionals involved in the early intervention process – from referral sources, to the first contacts with families, assessment, intervention and transition – to discuss and explain the importance of natural environments. Intervention in natural environments means discussing and using the family's routine activities, and the child's participation within those activities, as the context for IFSP development and intervention. The guidelines further state that, in most cases, IFSP objectives can be achieved by embedding interventions into the family's routines and activities. When the team decides interventions cannot be achieved in the family's natural environment, a justification is written on the IFSP. Interventionists that work with community providers, such as child care providers, should approach their work in the same manner of embedding intervention strategies into the routine of the setting and supporting the community provider in using those strategies through coaching and consultation.

The service guidelines for speech delays (Connecticut Birth to Three System, 2003) identifies when children should be deemed eligible for early intervention to distinguish between children who are "late talkers" and those who require intervention to ameliorate the impact of the speech delay on a child's development. The areas to assess for qualifying for follow-along are significant expressive language delay, significant receptive language delay, phonological impairment, oral motor disorder, family history of

language impairment, and significant birth history. Children <u>may</u> also be eligible for early intervention if they have disfluency, when English is not the primary language spoken at home, hearing children of deaf parents, or children adopted from non-English speaking countries. All children with delays in their communication should be referred for an audiological evaluation. For children who are not found eligible for early intervention, strategies should still be given to parents so they can foster their child's language development.

The service guidelines for infant mental health (Connecticut Birth to Three System, 1998b) identify the infant mental health supports interventionists should provide for all families and those with specific mental health needs. Infant mental health supports for all families include guidance on social, emotional and behavioral developmental issues, assistance reading their child's communicative cues, developing strategies that both address the individual child's needs and foster social emotional development, and assistance in reducing family stress and building family support. For children with specific mental health needs, interventionists should provide guidance on early childhood behavior issues, therapy around parent child relationships, family therapy and other specialized services such as parent-infant programs. Interventionists should also be knowledgeable about resources outside of the Birth to Three program to coordinate family access to those services when the needs are beyond the parameters of early intervention.

The service guidelines for young children who are hard of hearing or deaf (Connecticut Birth to Three System, 1999a) outline eight principles of intervention:
(1)   Early identification and diagnosis is essential, requiring knowledge of the behavioral characteristics of children who are hard of hearing or deaf at various ages.
(2)   Ongoing audiological assessment and management must be conducted by staff trained to work with infants and young children.
(3)   The intervention team should assist the family in learning about the nature of their child's hearing loss.
(4)   Intervention requires a team approach. The family is the most important member of this team. The mission of the Birth to Three System is to support, assist and advise families on how to best meet their child's unique needs. This should include access to a wide variety of information that is shared in an unbiased manner.
(5)   Parents and children are partners in communication. Parents and children must develop a communication system in order for a language system to develop. Interventionists, without bias towards one communication method, must help the family in identifying the most appropriate communication system for their child.
(6)   Language development begins as soon as the child is born and develops through interactions with the family in daily routines. Interventionists must support families in understanding how language develops so they can appreciate the strategies they are being asked to implement.

(7)   Parents need to understand and manage the hearing aids and/or auditory equipment for their child. A program must help the family learn how to maintain any hearing aids or equipment.

(8)   Parents are advocates for their children who are hard of hearing or deaf. Early intervention should help parents understand their rights as identified in state and federal legislation.
<div align="center">(Connecticut Birth to Three System,)</div>

The service guidelines for nutrition (Connecticut Birth to Three System) delineate eligibility for nutrition services through Birth to Three versus being a medical service outside the purview of Birth to Three. A nutrition specialist can provide nutritional assessments, develop and monitor individually appropriate plans, address nutrition needs, remedy any service gaps, monitor and re-evaluate a child's nutrition needs, coordinate nutrition services, and provide nutrition counseling. Consideration of the stress families experience over meeting their child's basic needs of eating and providing adequate nutrition is critical to creating a family-centered nutrition plan, representative of the family's culture. Specific medical conditions have a high probability of associated nutritional concerns. Certain medications, food allergies and intolerance for certain foods are other situations where nutrition can become a concern. These conditions and situations should be considered when developing intervention supports and services. There are age expectations for nutritional intake and eating, as well as a *Birth to Three Nutrition Screening* to be completed with the family, that interventionists can use to identify possible concerns. When eating problems are identified, each disciplinary team member can have a role in addressing eating objectives. Specific guidelines for identifying and providing supports to children with swallowing dysfunction, Gastroesophageal Reflux (GER), tube feeding, and those born prematurely are described.

The service guidelines for assistive technology (n.d.) outline law, policy and practices for birth through 21 years. The need for assistive technology is determined through evaluation and ongoing assessment processes, and is included on the IFSP based on child need and family priorities. The assistive technology evaluation should be conducted in the "functional settings in which the child will use the assistive technology" (Assistive Technology Task Force) for a more naturalistic assessment of the possible technologies to facilitate child participation in those settings. Assistive technology assessments should result in information on:

(1)   ***physical resources****: general health (and special medical considerations) and developmental, vision, hearing, gross and fine motor functioning.*

(2)   ***cognitive resources:*** *ability to use switches, make choices, use scanning, understand language, use language to communicate and respond to prompts or training trials.*

(3)   ***emotional resources:*** *response to stimuli, reinforcers, attention span, distractability and social interaction.*

(4)   ***environmental resources:*** *currently available equipment, the physical environment, available supports, and comfort with use of the technology.*

(Assistive Technology Task Force)

Training the family and others who interact with the child in using the assistive technology is critical to its success.

As evident by its frequent reference in this study guide, the *Procedures Manual* (Connecticut Birth to Three System, 2004a) comprehensively outlines all the procedures expected of early intervention agencies and providers. It is recommended that preparation for the knowledge test include a thorough review of the procedures manual and, if there are any procedures unfamiliar or unclear to the provider, s/he discuss the procedure with his/her program supervisor or administrator, or receive clarification from the *Birth to Three* regional manager.

Regulations and Standards. The Connecticut Birth to Three System is regulated under state and federal legislation and regulation. The ones most central to the provision of early intervention supports and services are those that regulate the early intervention system. However there are also other laws, such as the *Americans with Disabilities Act* (ADA), the *Child Abuse Prevention and Treatment Act* (CAPTA), and the *Family Educational Rights Privacy Act (FERPA),* that are important to interventionists' work.

Part C of the *Individuals with Disabilities Education Improvement Act* (2004; See http://www.nectac.org/idea/Idea2004.asp for complete legislation), recently reauthorized, and the federal regulations (Early Intervention Program for Infants and Toddlers with Disabilities*,* 1999; See http://www.nectac.org/idea/303regs.asp) by the Department of Education, Office of Special Education Programs (OSEP) , the federal office that administers IDEA programs, guide early intervention program structure and service delivery. Highlights of the legislation include:

- Early intervention service delivery in *natural environments*, including "the home, and community settings where children without disabilities participate" (Sec. 632 (4)(G)) with a statement justifying why the services cannot be provided in natural environments if deemed so (Sec. 636 (d)(5));
- The *role of early interventionists* are "(1) Consulting with parents, other service providers, and representatives of appropriate community agencies to ensure the effective provision of services; (2) Training parents and others regarding the provision of those services; and (3) Participating in the multidisciplinary team's assessment of a child and the child's family, and in the development of integrated goals and outcomes for the individualized family service plan" (Sec. 303.12 (c));
- The 16 types of *services* required to be provided and the 12 *qualified personnel* required to be available for early intervention supports and services;
- Each child is assigned a *service coordinator* who is responsible for "(i) Coordinating all services across agency lines; and (ii) Serving as the single

point of contact in helping parents to obtain the services and assistance they need" (Sec. 303.23 (2));

- The distinction between *evaluation*, as the multidisciplinary methods used to determine eligibility, and *assessment*, as ongoing methods of data collection to obtain information about "(i) The child's unique strengths and needs and the services appropriate to meet those needs; and (ii) The resources, priorities, and concerns of the family and the supports and services necessary to enhance the family's capacity to meet the developmental needs of their infant or toddler with a disability" (Sec. 303.322 (b));
- The timelines of *IFSP development, procedures for IFSP review and family notification, IFSP participants* and *IFSP content* (Sec. 303.342 – 303.344);
- New to this current reauthorization, a requirement to refer to early intervention "a child under the age of 3 who – (A) is involved in a *substantiated case of abuse or neglect*; or (B) is identified as affected by *illegal substance abuse, or withdrawal symptoms resulting from prenatal exposure*" (Sec. 637 (a)(6)).

Connecticut statute and regulations (*Connecticut General Statutes*, 2004; Early Intervention Services fro Infants and Toddlers and their Families, 2004; Go to the Birth to Three website at http://www.birth23.org/Laws%20and%20Regulations/default.asp to download copies) further outline the provision of early intervention services and supports including:

- The IFSP is "developed in consultation with the *child's pediatrician or primary care physician*" (Sec. 17a-248e (c)).
- Early intervention providers will attempt to procure fees for services from *insurance carriers* before payment from Birth to Three (Sec. 17a-248g (c)). The insurance coverage benefit is a maximum of $3,200 that will not be applied to the lifetime or annual limits of insurance coverage (Sec. 38-490a).
- A *sliding fee scale* of family payment of early intervention services for families with incomes of $45,000 or more (Sec. 17a-248e (e)), which starts at $25 per month for participation in Birth to Three (Sec. 17a-248-13 (a) and Sec. 38a-516a). Procedures are outlined for parents to request a waiver of parent fees ((Sec. 17a-248-14).
- Strategies to include *parents* in early intervention when their *availability to their child is limited*. Strategies include providing transportation to the parent, using the telephone so the parent can participate, considering the parent's need in terms of times and locations of meetings, or the parent volunteering a surrogate (Sec. 17a-248-4 (b)). This section also includes guidelines for considering a *foster parent* in the role of "parent" (Sec. 17a-248-4 (c)) and the roles and responsibilities of a *surrogate* ((Sec. 17a-248-4 (f)).

The *Americans with Disabilities Act* (*ADA; 1990*) provides civil rights protections against discrimination by guaranteeing equal opportunity for individuals with disabilities. Title III of the Act regarding public accommodations applies to child care providers operating in the private and public sectors. Child care providers can not discriminate against persons on the basis of disability if they are offering care to the general public. They are obligated to provide children and parents with disabilities an equal opportunity to

participate in child care programs and services. Child care providers have to make reasonable modifications (i.e., changes that can be carried out without much difficulty or expense) to their policies and practices to include children, parents, and guardians with disabilities into their programs unless doing so would constitute a *fundamental alteration*. The Connecticut Department of Public Health responsible for child care licensing states that training child care providers to administer medication may be a reasonable accommodation for children with disabilities to participate in child care (Child Day Care Licensing Program, 2005, Frequently Asked Questions, http://www.dph.state.ct.us/BRS/Day_Care/F_FAQ.pdf and http://www.dph.state.ct.us/BRS/Day_Care/G_C_FAQ.pdf). For information about the *ADA* and child care, see http://www.usdoj.gov/crt/ada/childq&a.htm.

The *Keeping Children and Families Safe Act* of 2003 reauthorized the *Child Abuse and Prevention Treatment Act* (1996; *CAPTA*). In this new legislation, federally funded child abuse and neglect prevention and treatment programs, such as the Connecticut Department of Children and Families (DCF), must create "provisions and procedures for referral of a child under the age of 3 who is involved in a substantiated case of child abuse or neglect to early intervention services " (Sec. 114 (b)(1)(B)(xxi)). This is aligned with the new language in the IDEA reauthorization of 2004. .

The *Family Educational Rights and Privacy Act* (1997; *FERPA*) is federal regulation that protects family confidentiality by limiting access to a child's educational records, assuring the parent's right to review his/her child's educational record and request corrections that they believe are inaccurate or misleading information. The full *FERPA* legislation is available in the *Procedures Manual* (Connecticut Birth to Three System, 2004a) and more information can be accessed on the US Department of Education, Family Compliance Office at http://www.ed.gov/policy/gen/guid/fpco/index.html.

   State Mandates. Connecticut law identifies early interventionists as *mandated reporters* – professionals who are involved with children. A *mandated reporter* is required, under law, to report any *suspicion* of child abuse or neglect to DCF, providing written information on a form known as DCF-136 (access at http://www.state.ct.us/dcf/hotline.htm). It is important to note that the early interventionist does not need to confirm that abuse or neglect is actually occurring, but suspects it. DCF will investigate further to substantiate the report. DCF defines abuse and neglect as:

   Child Abuse: Any child or youth who has a non-accidental physical injury, or injury which is at variance with the history given of such injury, or who is in a condition which is the result of maltreatment such as, but not limited to, malnutrition, sexual molestation, deprivation of necessities, emotional maltreatment or cruel punishment.

   Child Neglect: Any child or youth who has been abandoned or is being denied proper care and attention, physically, educationally, emotionally or morally or is being permitted to live under

*conditions, circumstances or associations injurious to his/her well-being
or has been abused.*

> (Department of Children and Families, 2003, Policy Manual,
> What Must Be Reported section)

Quality Assurance. The Birth to Three System conducts quality assurance to ensure that the intervention supports and services provided by the system are effective and meeting best practice standards. Monitoring efforts focus on five topic areas – child find/early identification, IFSP, service delivery, Family involvement, and transition. All programs will create a continuous improvement plan (CIP) in these topic areas to address any "indicators found to be out of compliance or in need of improvement" (Connecticut Birth to Three System, 2004a).

State and National Organizations. There are multiple state and national organizations that can provide resources and technical assistance for early interventionists as they work with families of infants and toddlers with or at risk for developmental delays or disabilities. Below are some organizations not listed in previous sections of the study guide.

National Organizations

American Academy of Pediatrics
http://www.aap.org
National organization of pediatricians. There are multiple resources regarding the health of children as well as policy statements on issues related to pediatric practices.

American Speech-Language and Hearing Association (ASHA)
http://www.asha.org
Professional association for audiologists, speech-language pathologists, and speech, language, and hearing scientists.

American Occupational Therapy Association (AOTA)
http://www.aota.org
Professional association of occupational therapists.

American Physical Therapy Association (APTA)
http://www.apta.org
Professional association of physical therapists.

Council for Exceptional Children (CEC)
http://www.cec.sped.org
   Division for Early Childhood (DEC)
   http://www.dec-sped.org
CEC is the professional organization for professionals and family members of children with disabilities. DEC is the CEC subdivision related to children birth to 8 years. There are multiple resources to download or purchase on both websites.

Family Voices
http://www.familyvoices.org
National, grassroots clearinghouse for information and education concerning the health care of children with special health needs.
   Connecticut Family Voices
   http://www.familyvoices.org/st/CT.htm

Frank Porter Graham Child Development Institute
http://www.fpg,unc.edu
An institute at the *University of North Carolina at Chapel Hill* where research and outreach is conducted, primarily for children birth to 8 years, with a focus on children with or at risk for developmental delay or disability.

IDEA Infant Toddlers Coordinators Association
http://www.ideainfanttoddler.org
National association of state level early intervention (Part C) coordinators.

National Association for the Education of Young Children (NAEYC).
http://www.naeyc.org
National organization for those involved with young children birth to 8 years. There is a bookstore with multiple resources available to purchase.

National Dissemination Center for Children with Disabilities
http://www.nichcy.org
Information of children with disabilities and effective practices.

Office of Special Education Programs (OSEP)
http://www.ed.gov/about/offices/list/osers/osep/index.htm
Federal office that administers early intervention and special education programs under IDEA.

PACER Center
http://www.pacer.org
Staffed primarily by parents of children with disabilities, provides resources, services and materials related to children with disabilities.

State Organizations

Child Health and Development Institute
http://www.chdi.org
Provides training, dissemination and research support to promote and maximize the healthy physical, behavioral, emotional, cognitive and social development of children throughout Connecticut.

Connecticut Parent Advocacy Center (CPAC)
http://www.cpacinc.org
A statewide nonprofit organization that offers information and support to families of children with any disability or chronic illness, age birth through 21.

Help Me Grow
http://www.infoline.org/programs/Helpmegrow.asp
A program of the Connecticut Children's Trust Fund, provides a statewide network designed to help families and providers access appropriate services for young children (birth to 5) who are at risk for developmental, health or behavioral problems.

Infoline
http://www.infoline.org
A single source for information about community services, referrals to human services, and crisis intervention.

New England Assistive Technology Marketplace
http://www.neatmarketplace.org
Provides information and access to products and equipment, and to the manufacturers and vendors of equipment.

Special Education Resource Center (SERC)
http://www.ctserc.org
A centralized resource for professionals, families, and community members regarding education and early intervention/prevention. Provides professional development, on-line journals and articles, and a loaning library of texts, assessments and videos.

State Department of Children and Families
http://www.state.ct.us/dcf
The mission of the Department of Children and Families is to protect children, improve child and family well-being and support and preserve families. Programs include foster and adoptive services, child protective services, mental health, and substance abuse.

State Department of Early Childhood, Preschool Special Education Program
http://www.state.ct.us/sde/deps/Early/PreschoolSE/
Oversees the implementation of preschool special education programs.

State Department of Public Health
http://www.state.ct.us/dph
Oversees programs related to children with special health care needs, WIC, child care licensing and lead poisoning.

State Department of Social Services
http://www.dss.state.ct.us
Oversees Temporary Assistance to Needy Families (TANF; formerly known as welfare to work), Medicaid, and child care subsidies.

University of Connecticut A.J. Pappanikou Center for Excellence in Developmental Disabilities Education, Research and Services
http://www.uconnucedd.org
Connecticut's University Center for Excellence in Developmental Disabilities, serves as a resource for individuals with disabilities and professionals working with them through research, professional development, outreach and dissemination.

Sample Questions Revisited:

1. The service guidelines for infant mental health recommend that interventions for all children should include all of the following *except*:

   a.   therapy around parent child relationships.
   b.   guidance on behavioral developmental issues.
   c.   assistance reading child communicative cues.
   d.   building family support.

a. Parent-child relationship therapy is recommended for families with specific mental health needs. The remainder are recommended practices in promoting infant mental health for all children in early intervention.

2. A child care provider must provide reasonable accommodations for a child with disabilities to successfully participate in child care according to which federal legislation:

   a.   *Americans with Disabilities*
   b.   *Individuals with Disabilities Education*
   c.   *No Child Left Behind*
   d.   *Head Start*

a. The *Americans with Disabilities Act (ADA)* requires child can providers to provide reasonable accommodations for children with disabilities.

3. If a parent tells you of his/her HIV status, you should:
   a.   assure the parent that you will keep the information confidential.
   b.   confidentially tell only other team members working with the family.
   c.   ask if the child is also HIV positive.
   d.   confidentially tell your supervisor.

a. Connecticut General Statutes requires that providers cannot disclose an individual's HIV status to anyone, and cannot ask about individual's HIV status (c).

4. Focused monitoring topic areas include:

   a.   eligibility evaluation.
   b.   interagency collaboration.
   c.   service delivery.
   d.   family outcomes.

a. The five topic areas of focused monitoring are child find/early identification, IFSP, service delivery (c), family involvement, and transition.

5. Your team wants to review a specific assessment instrument to decide whether your agency should buy it. The best possible resource in Connecticut is:

   a.   *NEAT*
   b.   *CPAC*
   c.   *SERC*
   d.   *Infoline*

c. The *Special Education Resource Center (SERC)* loans assessment instruments to *SERC* library patrons.

EVALUATION

The knowledge test for the evaluation endorsement contains questions on information and methods for planning, implementing and interpreting a variety of assessment processes that result in a comprehensive picture of child learning and development to determine eligibility and make recommendations for addressing family priorities. Specific Birth to Three procedures regarding evaluation implementation, eligibility status, and evaluating progress are also included in this test.

PreAssessment Planning and Procedures

Rationale:

Most families come to the evaluation and assessment process with little knowledge of what will take place or the strengths and limitations of the information derived from different assessment methods. For families to feel comfortable and fully participate in the evaluation and assessment process, they need to understand what is going to occur during the evaluation visit and need to be fully informed of their rights with regard to eligibility evaluation. In addition, preassessment planning includes determining the appropriate instruments and other methodologies based on the family's priorities, child behaviors and system needs. Without such planning, the instrumentation and methods chosen might not yield valid information regarding the child's development or address the family's concerns and priorities for which they came to early intervention.

Relevant Indicators:

E1 During first contact with family, provide overview of Birth to Three system, eligibility evaluation and assessment process (e.g., rationale, methods, scoring procedures) to family/caregivers

E2 Ensure that families understand their rights in regard to procedural safeguards.

E3 Select and administer evaluation/assessment instruments

Sample Questions:

1. When conducting an evaluation/assessment visit, interventionists should ***first***:

    a.   review procedural safeguards and ask the family to sign consent.
    b.   provide an overview of early intervention and the assessment process.
    c.   discuss the family's concerns and priorities.
    d.   begin the evaluation/assessment to alleviate the family's anxiety.

2. Interventionists must make sure that families clearly understand their rights in regard to procedural safeguards before:

      a.   beginning the evaluation/assessment.
      b.   leaving the evaluation/assessment visit.
      c.   stating whether the child is eligible.
      d.   answering any questions.

3. Validity is the extent to which an instrument:

      a.   consistently yields the same scores.
      b.   measures what it is supposed to measure.
      c.   is useful for program planning.
      d.   uses natural methods or contexts.

Description:

      As with any conversations between interventionist and family members, interventionists conducting an evaluation must describe the early intervention system, the eligibility evaluation process, and family rights and procedural safeguards in a respectful manner, individualized to the family's characteristics, including English proficiency.

      Describing the Evaluation and Assessment Process. Families may come to early intervention with no knowledge of what early intervention is, or misperceptions of what early intervention is, based on their own assumptions or information received by others. For families to fully participate in the early intervention process, they must understand both what early intervention is (e.g., family support model) and is not (e.g., therapeutic, medical model), and the reasons behind the system design. Specific aspects of Birth to Three System to include in describing early intervention are:
- The Connecticut Birth to Three System is structured in comprehensive agencies;
- The process of evaluation to, if eligible, IFSP development and intervention implementation;
- Parent choice in selecting an early intervention agency; and
- The service delivery model of Connecticut Birth to Three including the primary provider model, natural environments, and coaching/consultation.

Early interventionists should think through and practice describing these different system aspects and how they would explain to families *why* the system is designed as such. The *Procedures Manual* (Connecticut Birth to Three System, 2004a) includes an overview of the system. In addition, interventionists must have a full understanding of the philosophy and evidence behind the system design in order to clearly explain it to the family.

Before administering any assessment methods, there are multiple aspects of the eligibility and assessment process to be discussed with the family. First, families need to understand the possible ways they can be eligible for early intervention – biological

condition, developmental delay in one or more areas that meets Connecticut's eligibility criteria, or informed clinical opinion which requires sufficient evidence that, even if the child is or is not eligible based on the evaluation instrument score, the child presents a significant developmental delay.

Second, the strengths and limitations of each assessment method used should be described, including:
- Standardized instruments provide developmental scores relative to other children the child's age to determine the extent, if any, of a developmental delay. However, *most* standardized instruments are very general and do not look at how the child is functioning in everyday life; and
- Discussions with parents and child observations within the context of routine activities provide a more authentic picture of the child's functioning, and related strengths and needs, but do not provide the necessary standard scores to determine eligibility.

Describing the strengths and limitations will help families understand why multiple assessment methods are used.

Third, administration and scoring procedures should be described, including:
- Certain items need to be administered and scored based on the child's performance at the time of the evaluation, which may not reflect what the child can or cannot do at other times. For example, the child might be able to walk up stairs without holding on, which requires "standing on one foot." However, if the child does not "stand on one foot" when administered, the child cannot be given credit when scoring the instrument. However, the information provided from the family on what the child can do in everyday life is taken into account when determining eligibility, and child strengths and needs.
- Relatedly, certain items need to be administered – what is said and done – exactly as prescribed. The constraints of this to child functioning is described to families.
- Items will be administered, observed or discussed that are more sophisticated than the child is expected to be able to do in order to determine a score. Just because the child cannot "do" certain items does not mean that there is anything "wrong" with his/her development.

Fourth, family participation should be described. Family roles include a discussion of what the family sees in routine activities (i.e., parent report), validation of interventionist interpretations, administration of certain items and interacting with their child during contextualized observations. In describing the family's role in administering certain items on a test, the interventionist might discuss how the child would be more comfortable with the caregiver than an interventionist who is a "stranger," and that the interventionist can guide the caregiver through item administration. In describing family participation in contextual assessments, the interventionist might discuss why looking at how the everyday routine "goes" can provide insight for making recommendations on strategies the caregiver can use to help their child's learning and development.

Procedural Safeguards Related to Evaluation and Assessment. The procedural safeguards are described in the *Procedures Manual* (Connecticut Birth to Three System, 2004a). *A Family Handbook Guide 1: Referral & Eligibility Evaluation* (Connecticut Birth to Three System, 2004b) provides family-friendly language for describing procedural safeguards, which can be emulated in the interventionist's own words. Interventionists should review each right separately with the family, including consent, and ask open ended questions (i.e., "What questions do you have about these rights?" vs. "Does this make sense to you?") to ensure the family understands these rights.

Evaluation and Assessment Methods. Eligibility evaluation and assessment procedures usually encompass two purposes of gathering information – to determine eligibility for the Birth to Three program and to plan the intervention program at the IFSP meeting. To determine eligibility based on a developmental delay, any instrument should be used in its entirety. Other instruments can also be used if necessary. No single procedure (standardized testing, observation, parent interview, review of medical information, etc.) is used as the sole criterion to determine eligibility. Instruments selected must, taken together, result in standard scores for each domain of eligibility – cognition, fine motor, gross motor, communication, social-emotional and adaptive. This does not mean that one instrument must include all the domains, but the combination of instruments satisfies this requirement. While standardized instruments are necessary to determine eligibility, it is not sufficient to only use standardized instruments. In fact, the federal Part C regulations state that "no single procedure is used as the sole criterion for determining a child's eligibility" (Early Intervention Program for Infants and Toddlers with Disabilities, 1999, Sec. 303.323(c)). Other methods such as discussions with parents, observations of the child in the context of routine activities and developmental checklists can also be used to obtain a comprehensive picture of the child's development. To gather information for the second purpose, program planning, the interventionist must use methods that demonstrate (1) how the child currently functions in his/her routine activities to determine next steps or individualized objectives, and (2) how caregivers currently support the child's learning and participation in the routine activities, through their interactions with the child, the provision of learning opportunities and physical adaptations, to determine intervention strategies for meeting the IFSP outcomes and objectives, including the type and level of support (services and intensity, respectively). Determining which instruments and assessment methods to use requires an understanding of the types of methods, the strengths and limitations of each method and specific instruments, and the alignment of the method/instrument to the family's concerns and priorities and the child's characteristics.

Norm referenced measures compare a child's performance to a representative group of children. This "normative group" should be examined for its appropriateness to children of the current generation (e.g., the normative group in the *Battelle Developmental Inventory, 2nd edition* published in 2004 will be more representative of the skills and abilities expected of children today than the *Battelle Developmental Inventory, 1st edition* published in 1984. Other characteristics of the normative group to examine for representation are cultural diversity, socio-economic status, gender, regions of the

country, types of population density areas (rural, urban, suburban), and inclusion of children who have biological risk factors, or those with disabilities and delays (Bailey, 2004). The normative group should, as closely as possible, represent the characteristics of the child being evaluated. Norm referenced measures are primarily used for determining eligibility through standardized scores.

Criterion based measures are used to document the mastery and emergence of child behaviors or skills according to a developmental progression. Criterion based measures usually yield a developmental age score; they do not provide a standard score. The items on curriculum based measures are usually more generalized and functional than those on a norm-referenced instrument, providing an opportunity to observe the child in the routine activities to identify functionally-relevant development. Criterion based measures are usually flexible in administration, allowing for multiple modes of response (e.g., manual or sign language) and adaptations for children with disabilities. Criterion based measures can be used to inform eligibility decisions however, these measures do not provide a standard score.

In selecting an assessment instrument, interventionists should determine the adequacy of the instrument's reliability or validity.

Reliability is the consistency or stability of scores over time (test-retest reliability), across evaluators (inter-rater reliability) and across items (internal consistency), which should be reported in the instrument's procedural manual. Reliability also depends on the accuracy with which the interventionist administers the instrument directions (procedural reliability) and calculates the scores (scoring reliability). There are tradeoffs to reliability. The more standardized the administration procedures are described in the instrument's procedures manual, the more likely the test with be reliable as there is little room for variability in administration, scoring or interpretation. However, this limits the interventionist's ability to take individual child behaviors into consideration. Bailey (2004) suggests that reliability coefficients should be at least greater than .80, and if possible, greater than .90. Test retest reliability coefficients will vary in young children depending on the length of time between administrations since children's development changes quickly at this age.

Validity is the extent to which a test measures what it is intended to measure. Content validity is the extent to which the test covers the breadth and depth of the domain tested. Criterion validity is the extent to which the test is related to other measures of the same domain at the same age (concurrent validity) and at later ages (predictive validity). Construct validity is the extent to which the assessment measures the underlying attribute it is intended to measure (convergent validity) and does not measure what it is not intended to measure (discriminant validity).

Two informal, but important, assessment processes are observations and family discussions (frequently referred to as parent report).

Observations and family discussions can be applied decontextually or contextually. Decontextualized observations or family discussions center on child behavior outside of the individual routine activities of the family. Family members can be observed while administering items to the child, which decreases child stress because s/he is interacting with a person s/he knows well. Family members can also be interviewed about generic developmental skills on an assessment instrument or developmental checklist. Family members have been shown to be accurate reporters of their child's developmental skills as they have had multiple opportunities to observe the child in multiple contexts (McLean & Crais, 2004). These two methods provide generalized information about the child's development, but not child functioning specific to routine activities. Contextualized observations and family discussions center on child behavior within the individual routine activities of the family. Contextualized observations provide an opportunity to observe exactly how the child behaves within the routine activities in which s/he learns and develops, and how the social interactions with others and the physical environment (e.g., materials, adaptations, room arrangement) support or impede learning and development. Family members can be interviewed about how the child behaves, and what the family members do to support the child in participating in routine activities. Contextualized observations and discussions are also called functional, authentic, naturalistic and ecological assessments.

Neisworth and Bagnato (2004) identified eight standards for developmentally appropriate assessment that can be used in selecting assessment methods, instruments and procedures. The combination of assessment methods chosen should evidence:
>   1. Utility or usefulness for intervention;
>   2. Acceptability or social worth;
>   3. Authenticity or natural methods and contexts;
>   4. Equity or adaptability for special needs;
>   5. Sensitivity or fine measurement gradations;
>   6. Convergence or synthesis of ecological data;
>   7. Collaboration or parent-professional teamwork; and
>   8. Congruence or field validation/evidence base.
>   (Neisworth & Bagnato, p. 202)

Specific evaluation and assessment methods should be selected based on:

1.   The purpose of the evaluation and assessment. Will this information be used for eligibility or eligibility *and* program planning? Has eligibility already been determined based on a biological condition (and therefore a standard score is not needed)?

2.   Family concerns and priorities. Do the methods assess areas with which the family is concerned?

3.   Child characteristics. What evaluation and assessment methods are suitable according to the child's known competencies? For example, if the child has a

known hearing impairment, should an assessment be used that only allows for verbal directions? Or, if a child has significant motor needs, should an assessment be used that measures cognition through manipulation of objects?

4.   Applicability to routine activities. What evaluation and assessment methods will best identify how the child learns and participates in the routine activities identified by the family?

As stated previously, a variety of evaluation and assessment methods should be used to compile multiple forms of data that, when synthesized (convergence), provide a comprehensive picture of the child's development, learning and functioning within his/her routine activities and meets any systemic needs such as eligibility determination.

Sample Questions Revisited:
1. When conducting an evaluation/assessment visit, interventionists should ***first***:

       a.   review procedural safeguards and ask the family to sign consent.
       b.   provide an overview of early intervention and the assessment process.
       c.   discuss the family's concerns and priorities.
       d.   begin the evaluation/assessment to alleviate the family's anxiety.

b. Families must understand the program, the process and possible outcomes of participating in the evaluation/assessment process before deciding to participate. Procedural safeguards (a) must be reviewed *before* conducting the evaluation/assessment. However, they only make sense in the context of the assessment/ evaluation process. Therefore, families need to understand the process in order to understand the procedural safeguards.

2. Interventionists must make sure that families clearly understand their rights in regard to procedural safeguards before:

       a.   beginning the evaluation/assessment.
       b.   leaving the evaluation/assessment visit.
       c.   stating whether the child is eligible.
       d.   answering any questions.

a. Even if families are anxious to begin the assessment/evaluation process, families must have a clear understanding of the procedural safeguards and all paperwork related to consent *prior* to implementing the evaluation/assessment.

3. Validity is the extent to which an instrument:

       a.   consistently yields the same scores.
       b.   measures what it is supposed to measure.
       c.   is useful for program planning.
       d.   uses natural methods or contexts

b. The definition of validity is the extent to which an instrument measures what it is supposed to measure. (a) is the definition of reliability. Instruments can validly measure what they are intended to measure and still not be useful for program planning (c). (d) is the definition of authenticity.

Resources:

Literature:

McLean, M., Wolery, M., Bailey, D. (Eds.) (2004). *Assessing infants and preschoolers with special needs, 3rd edition.* Englewood Cliffs, NJ: Merrill/Prentice Hall.

Neisworth, J., & Bagnato, S. (2004). The mismeasure of young children: The Authentic assessment alternative. *Infants and Young Children, 17*(3) 198-212.

Assessment Implementation

Rationale:

Early interventionists must use multiple methods of assessing to obtain a clear picture of the child's learning and functioning, and to meet the assessment needs of the system (i.e., eligibility determination), the family (i.e., concerns about their child's development), and the provider (i.e., how to support the child's learning). Using these methods or processes requires a clear understanding of administration procedures and the type of information gleaned from each method. In addition, family participation in the assessment process increases the accuracy of the assessment results as a true depiction of the child's everyday learning and functioning.

Relevant Indicators:

E4 Engage family/caregivers in the assessment process, including administration of test items to the extent allowable by test instrument protocol

E5 Obtain additional information regarding the child and family through parent/caregiver interview, reported information, clinical observation, and contact with physician as appropriate

E8 Score test results from all developmental domains to formally determine eligibility for Connecticut Birth to Three services

E13 Knowledge of procedures for administering and interpreting evaluation and assessment tools

1. Family members should ***not***:

      a.   administer standardized test items;
      b.   score standardized test items;
      c.   validate standardized test items;
      d.   interpret performance on standardized test items.

2. Information from assessment methods other than the norm referenced instrument is used:

      a.   as a secondary source of information to determine eligibility.
      b.   as an important source of information to determine eligibility.
      c.   to inform program planning but not eligibility.
      d.   to inform eligibility but not program planning.

3. During an eligibility evaluation, a child receives the following standard scores on an instrument with a standard mean of 100 and standard deviation of 15:

| Cognition = 79 | Fine Motor = 82 | Social-Emotional = 79 |
| Communication = 75 | Gross Motor = 80 | Adaptive = 81 |

The child is eligible for early intervention if the child has:

      a.   one of the conditions with a high probability of developmental delays.
      b.   an expressive communication delay of more than 2 standard deviations.
      c.   one of the conditions with a low probability of developmental delays.
      d.   a birth weight of two pounds.

4. The procedures for administering evaluation instruments to obtain a standard score should be:

      a.   followed according to protocol to obtain a reliable score.
      b.   adapted as needed depending on the child's delays or disability.
      c.   modified as needed according to the items available in the family's home.
      d.   abbreviated as needed due to the short attention of infants and toddlers.

Description:

Family Participation. Families can participate in the evaluation and assessment process in multiple ways. Families must take an active role during preassessment planning to identify their priorities and concerns, a description of their child's behavior and the family's routine activities. The information derived from this conversation serves as the basis for selecting assessment instruments and methods, and determining which routine activities to further explore through assessment. Other preassessment planning activities in which the family can participate are identifying who, other than the family,

needs to be involved in the assessment process (e.g., child care provider), and times and locations that will best yield information about their concerns and priorities.

During assessment implementation, family participation "is an efficient use of family, caregiver and professional time, provides information not available to most professionals, and could improve the ecological validity of the assessment process" (McLean & Crais, 2004, p. 50). Families can take on the role of *interpreter* by explaining the meaning of the child's behaviors (e.g., clarifying communicative intents). Families can also *validate* the assessment processes by describing the child's familiarity with the type of and manner in which the activities were presented, and comparing the child's usual behaviors with the behaviors observed during the assessment.

A role that families are taking increasing responsibility for is that of an active *participant in gathering information.* Families can participate in information gathering by completing developmental checklists or responding to questions through formal or informal interviews or, when parent report is allowed, certain items on an instrument protocol. Families can also administer items on a protocol by either eliciting behaviors that can be scored through observation or, with guidance from the interventionist, administer protocol procedures. Interventionists must be knowledgeable of administration procedures to (1) ensure that an untrained individual is permitted to administer and (2) determine the level of specificity with which to administer the item. If an item requires precise administration, it may be difficult for a family member to administer that item, even with interventionist guidance. Since family members want their child to succeed, they may find it difficult not to deviate from procedures where the structure of the item might preclude the child from succeeding. The interventionist should provide the guidance necessary so family members can administer items according to protocol.

McLean and Crais (2004) stated that "families and other caregivers continue to be untapped resources regarding the child's functioning in natural settings" (p. 50). As described in previous sections, families can be active information gatherers by describing or participating in routine activities so that the interventionists can obtain a clear picture of the child's functioning in those activities and the influences of the social and physical environment on the child's functioning. This type of participation is different from eliciting decontextualized child behaviors to score items on an instrument protocol, but provides an opportunity to understand the child within the context of everyday life.

Administration Procedures and Instrument Interpretation. To obtain an accurate picture of a child's developmental strengths and needs, evaluation practices should ensure that the child is alert and engaged in the activities. In addition, while evaluation procedures for eligibility do require standard scores in each developmental domain, the evaluation should also focus on the concerns that brought the family to early intervention, and ensure that this already stressful time is not further exacerbated by conducting activities that create discomfort in the family.

Administration of standardized instruments requires familiarity with the instrument's procedures manual, which outlines where to start and end the assessment, the ways in

which items can be administered, the materials that can be used, the procedures for eliciting a child response and procedures for scoring items. The procedural manual describes where to start an assessment, the criteria for determining if the starting place was appropriate for the individual child (a "basal"), and the criteria for stopping the assessment (a "ceiling"). Instruments, and items within instruments, vary in terms of the flexibility items can be administered. For example, some instruments can be scored using parent report, observation and/or eliciting an item. Other instruments, like the *Battelle*, require certain items to only be scored by eliciting the child response, while other items can be scored through parent report. The materials to be used also depend on the instrument. Some instruments require specific materials be used; others provide materials but allow for other materials; and others do not provide materials and expect other materials to be used. Furthermore, some instruments provide detailed guidelines for presenting items to the child, prohibiting any deviation in the words or behaviors used or the number to attempts given for the child to achieve the item. Other instruments provide suggestions of words and behaviors. Interventionists must follow the guidelines as stated, including whether adaptations for children with disabilities are allowed. Finally, scoring items varies among instruments. Some provide only an "either/or" score – the child achieved the behavior as described in the procedures or s/he did not. Others provide for an "emerging" score where the child has not yet mastered the behavior. Depending on the instrument, some administration procedures may seem unreasonable, especially for children with disabilities. However, administration according to procedures is critical to obtaining a reliable and valid standard score. Therefore, careful selection of the instrument is essential (See PreAssessment Planning and Procedures).

Calculating summary scores from raw scores also varies according to the instrument as well as the type of summary scores provided. Procedures should be followed according to the manual. For Birth to Three eligibility purposes, the instruments used should provide a standard score within each of the developmental domains (communication, cognition, fine motor, gross motor, social-emotional and adaptive behavior).

Standard scores, the scores used by the Birth to Three System to determine eligibility due to a significant developmental delay, are based on a normal curve where most children score near the mean, or average, with less children scoring further away from the mean. In most instances, instruments are normed with a mean score of 100 and a standard deviation (sd) of 15. This indicates that scores between 85 (100 – 15) and 115 (100 + 15) are within 1 sd of the mean. The majority (68%) of children in normative sample scored within ±1 sd of the mean. A standard score more than 1.5 sd from the mean (i.e., a score ≤ 77.5 or 100 – (1.5 * 15)) represents about 7% of the population; a standard score more than 2 sd from the mean (i.e., a score ≤ 70 or 100 – (2 * 15)) represents about 2% of the population. The instrument's procedures manual will provide a table to convert raw scores to standard scores.

Developmental age scores on norm-referenced measures are "the average age at which 50% of the normative sample achieved a particular raw score" (Bailey, 2004, p. 28). Age scores are easy for families to understand and can show positive growth over

time however, the typical variability of children is not accounted for and a developmental delay is relative (e.g., a four delay in a 10 month old is more significant than a 40 month delay in a 30 month old). Bailey recommends using developmental age as an "estimate."

Percentile ranks "tell what percentage of the population performed at or below a given score" (Bailey, 2004, p. 31). Therefore, a percentile rank of 30 means that the child performed better than 30% of the normative group. Percentile scores can be difficult for families to understand because the average percentile score is 50, and that the difference in between percentile scores is greater at the extremes than it is closer to the mean (Bailey).

Eligibility for the Birth to Three program based on a standard score requires at least (1) a 1.5 sd delay in two developmental domains or (2) a 2 sd delay in one developmental domain. For an instrument with a mean of 100 and standard deviation of 15, the standard score would need to be 77 or below in two areas of development, or 80 or below in at least one area of development. Interventionists should be well-versed in the different situations where eligibility is determined beyond the standard scores. These situations include:
- Delays in speech communication only: considerations include biological factors, the primary or dominant language in the home, and stuttering-like disfluencies; and
- Move to Connecticut: eligibility is based on the child's delays at time of referral to other state's program and child's current level of functioning.

Interpreting standard scores, due to the limitations of norm referenced instruments described previously (See PreAssessment Planning and Procedures), should be conducted cautiously, cognizant of the findings culled from the other assessment procedures. Interventionists must use their professional expertise to determine the extent to which the standard score truly reflects the child's functioning and the extent of the delay. For example, a child may not be interested in engaging in the activities required to score protocol items. According to procedures, the interventionist must not give the child credit for these items. This results in a standard score well below the mean. However, through parent report and the interventionist's own observations, it is clear that the child does not exhibit a delay in the area. This information is included in (1) the eligibility decision and, if the child is still eligible, (2) identification of appropriate services and supports. Informed clinical opinion allows for the gathering of multiple forms of information to determine whether or not the child is exhibiting a significant developmental delay beyond the standard score.

Other information gathering techniques includes parent/caregiver interview, other developmental reports, interventionist observations, and contact with the child's physician. Formal parent/caregiver interviews should also follow protocol to the extent provided in the procedures manual. For example, the *Vineland Adaptive Behavior Scales* results in a standard score for adaptive behavior and outlines specific procedures to elicit information through parent interview. Less formal interview formats,

or simple discussions with families and other caregivers, can provide a large amount of information about the child's development, especially with regard to functioning in routine activities. Research has found that families are reliable reporters of their child's behaviors (McLean & Crais, 2004). Therefore, even if the information provided is different from that of the interventionist's observations or the child's behavior during norm referenced testing, the family's perspective should be respected and equally considered. As stated previously, to provide the most reliable and valid information of a child's functioning, observations of the child's participation in the routine activities, within the "normal" context, is the most authentic. This would require any family members or others usually involved in that routine activity to participate. That way, the interventionist can not only determine the child's functioning, but also to identify intervention strategies that modify the social and physical environment (the way people interact with the child, and the objects, materials and environmental arrangements) to maximize child learning and development.

Sample Questions Revisited:

1. Family members should ***not***:

    a.   administer standardized test items;
    b.   score standardized test items;
    c.   validate standardized test items;
    d.   interpret performance on standardized test items.

b. Family participation in the assessment process can include any of the other roles. Only professionals familiar with testing and the test protocol should score test items.

2. Information from assessment methods other than the norm referenced instrument is used:

    a.   as a secondary source of information to determine eligibility.
    b.   as an important source of information to determine eligibility.
    c.   to inform program planning but not eligibility.
    d.   to inform eligibility but not program planning.

b. Information gathered through multiple sources of data should be included in determining eligibility, with no one methodology considered superior to the other methods.

3. During an eligibility evaluation, a child receives the following standard scores on an instrument that has a mean of 100 and a standard deviation of 15:

Cognition = 79	Fine Motor = 82	Social-Emotional = 79
Communication = 75	Gross Motor = 80	Adaptive = 81

The child is eligible for early intervention if the child has:

      a.   one of the conditions with a high probability of developmental delays.
      b.   an expressive communication delay of more than 2 standard deviations.
      c.   one of the conditions with a low probability of developmental delays.
      d.   a birth weight of two pounds.

a. The child has a standard score more than 1.5 sd below the mean in one developmental domain. Therefore, the child can only be eligible if the child has one of the conditions with a high probability of developmental delays (a). (b) (c) and (d) are criteria for follow along visits.

4. The procedures for administering evaluation instruments to obtain a standard score should be:

      a.   followed according to protocol to obtain a reliable score.
      b.   adapted as needed depending on the child's delays or disability.
      c.   modified as needed according to the items available in the family's home.
      d.   abbreviated as needed due to the short attention of infants and toddlers.

a. Instrument protocols should be precisely followed. The extent adaptations or modifications can be made are explicitly described in the procedures manual as part of the protocol.

Resources:

Websites:

Recommended Practices for Assessment in Early Childhood Settings
http://www.nectac.org/~ppts/calls/RecAssessSlides/sld001.htm
Powerpoint presentation by John Neisworth and Stephen Bagnato.

New Assessment: Early Childhood Resources
http://www.newassessment.org/
From the University of New Mexico's Center for Development and Disability, provides resources and products on early childhood assessment.

North Central Regional Education Laboratory (NCREL)
http://www.ncrel.org/sdrs/areas/as0cont.htm
Provides information on evaluating instruments and interpreting assessment results.

Literature:

McLean, M., Wolery, M., Bailey, D. (Eds.) (2004). *Assessing infants and preschoolers with special needs, 3rd edition.* Englewood Cliffs, NJ: Merrill/Prentice Hall.

Meisels, S. J. & Atkins-Burnett, S. (2000). The elements of early childhood assessment. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed, pp. 231 - 257). New York: Cambridge University Press.

Vig, S., & Kaminer, R. (2003). Comprehensive interdisciplinary evaluation as intervention for young children. *Infants and Young Children, 16*(4), 342-353.

Discussing Assessment Findings

Rationale:

Whether using an evaluation instrument with specific items on it, or more naturalistic methods such as interview or observation, the assessment findings are derived from a short period of time with the child and family. The interventionist must take the resulting information and translate the findings into meaningful conclusions about the child's learning and functioning in everyday life to provide information on eligibility, the family's concerns, recommendations to support their child's learning, and programming decisions. Interventionists must, in collaboration with families, communicate these findings both orally and in written form for family records and review. The assessment process as an information gathering endeavor is valuable only if it meets the family's needs and purpose of seeking early intervention. Families come to early intervention, not specifically to receive services, but in search of answers to their concerns. Assessment findings should result in recommendations and strategies to address the real-life concerns and priorities of the family.

Relevant Indicators:

E6 Upon completion of the evaluation session, provide family/caregivers with initial impressions of the child's performance and projected eligibility status (if possible)

E7 Suggest developmental activities to address immediate family/caregiver concerns

E9 Analyze findings and interpret the child's performance in the summary of the report with emphasis on strengths and needs

E10 Write assessment report that incorporates findings and information contributed by co-evaluator(s) and family/caregivers (including outside assessments), regarding the child and his/her family

E11 Offer ASQ and suggest resources to family of child who does not meet eligibility

1. At the end of the assessment visit, interventionists should ***at least*** provide families with information about the child's learning and development with regard to:

      a.   eligibility status.
      b.   family concerns and priorities.
      c.   findings in the domain of the evaluators' expertise.
      d.   developmental age scores.

2. Recommendations to promote child learning and development are given at the time of assessment:

      a.   only to families not eligible for early intervention.
      b.   only to families eligible for early intervention.
      c.   only to families eligible for follow along.
      d.   to all families who participated in the assessment process.

3. The emphasis of the assessment report should be on:

      a.   functional strengths and needs.
      b.   standardized scores.
      c.   items passed/failed.
      d.   programming recommendations

4. The assessment report should:

      a.   describe findings according to assessment method.
      b.   focus primarily on findings from the evaluation instrument.
      c.   synthesize findings across assessment methods.
      d.   include only the professionals' impressions.

5. The Help Me Grow Program is for families:

      a.   not eligible for early intervention but eligible for follow along.
      b.   eligible for early intervention.
      c.   not eligible for early intervention or follow along.
      d.   (a) and (c).

Description:

     Communicating Assessment Findings. Discussing assessment findings, orally or in written form, requires sensitive communication focused on the family's priorities and concerns. The effective communication techniques described in the Teaming and Collaboration section also pertain to the conversation on assessment findings. In addition, conveying sensitive information to families requires a respect, a nonjudgmental

attitude and empathy (Beckman, Newcomb, & Frank, 1996). The information communicated to families should be conducted in such a way that the results are "…understandable and useful for families" (Neisworth & Bagnato, 2000, p. 26).

The DEC recommended practices in assessment (Neisworth & Bagnato, 2000) suggest that findings should include child strengths as well as needs, the limitations of the assessment methods (See PreAssessment Planning and Procedures section), and a synthesis of the findings across multiple assessment methodologies rather than separate findings for each instrument).

The *Procedures Manual* (Connecticut Birth to Three, 2004a) contains samples for writing assessment reports. Assessment results should be written in such a way that it informs program planning. Wolery (2004b) identified three categories to organize information about the child so that it is meaningful for program planning: "(a) developmental and functional *abilities* and *needs*; (b) usual interaction patterns with the animate (social) and inanimate (physical) environment; and (c) effects of various supports, assistance, and intervention strategies" (p. 521). The findings should reflect the "interrelatedness of developmental areas (e.g., how the child's limitations have affected development; how the child has learned to compensate)" (Neisworth & Bagnato, 2000, p. 26).

Offering Recommendations and Support. The findings from assessment processes are only as useful as they "assist families and caregivers in creating practical solutions to problems of significance" (Meisels & Atkins-Burnett, 2000, p. 233). Offering recommendations at the time of assessment is important for all families. Families who are eligible for early intervention now know that their child has a developmental delay, and will be anxious to begin addressing the delays, instead of waiting for the IFSP process to unfold. Families who are not eligible for early intervention still have concerns about their child's learning and development; the assessment process can be an opportunity for these families to receive developmental guidance regarding their concerns. Regardless of whether or not they are eligible for early intervention, families concerns should be addressed by identifying strategies for promoting their child's development and identifying supports.

Strategies for addressing developmental needs can include physical adaptations and interactive approaches that promote learning and enhance functioning. These recommendations should be individualized to the child's unique characteristics and the family's routine activities, and considerate of to the strategies families have already tried. The recommendations should be communicated in such a way that the family understands and can apply the recommendations without outside supports.

Support recommendations should also be provided for all families participating in the assessment process. Support from the Birth to Three System for families who are eligible for early intervention is the IFSP process. The assessment team should ensure that the family fully understands the next steps in the process to receive supports and services. For families who are not eligible, the Birth to Three System offers follow-along

(See Birth to Three procedure on follow-along for eligibility) and monitoring services using the *Ages and Stages Questionnaire* (See the *Connecticut Procedures Manual* for eligibility and processes to utilize these services). For all families, the contact information of other support resources can be provided, such as child care, play groups and other community activities, mental health services, and private therapies). The purpose of providing these supports, as well as developmental recommendations, is to promptly address family concerns and priorities.

Sample Questions Revisited:

1. At the end of the assessment visit, interventionists should **at least** provide families with information about the child's learning and development with regard to:

      a.   eligibility status.
      b.   family concerns and priorities.
      c.   findings in the domain of the evaluators' expertise.
      d.   developmental age scores.

b. Families have been waiting for information about their concerns and priorities. The assessment results provided at the end of the assessment visit should specifically address these concerns and priorities.

2. Recommendations to promote child learning and development are given at the time of assessment:

      a.   only to families not eligible for early intervention.
      b.   only to families eligible for early intervention.
      c.   only to families eligible for follow along.
      d.   to all families who participated in the assessment process.

d. All families want immediate answers to their concerns and priorities that brought them to early intervention.

3. The emphasis of the assessment report should be on:

      a.   functional strengths and needs.
      b.   standardized scores.
      c.   items passed/failed.
      d.   service recommendations

a. The information gathered through the assessment process should be written to inform IFSP planning, according to the child's strengths and needs to learn and function in everyday life. Standard scores (b) and items passed/failed (c) on the instruments in alone provide little information to understanding *how* a child learns and potential supports. The information from multiple assessment

methods need to be synthesized into a comprehensive picture of child functioning.

4. The assessment report should:

   a. Describe findings according to assessment method.
   b. Focus primarily on findings from the evaluation instrument.
   c. Synthesize findings across assessment methods.
   d. Include only the professionals' impressions.

c. The convergence of findings across assessment methods, including family perceptions (d), creates a picture of child learning and development.

5. The Help Me Grow Program is for families:

   a. not eligible for early intervention but eligible for follow along.
   b. eligible for early intervention.
   c. not eligible for early intervention or follow along.
   d. (a) and (c).

d. Any family not eligible for Birth to Three is offered the Help Me Grow Program, which includes administering the *Ages and Stages Questionnaire.*

Resources:

Literature:

Neisworth, J., & Bagnato, S. (2004). The mismeasure of young children: The Authentic assessment alternative. *Infants and Young Children, 17*(3) 198-212.

McLean, M., Wolery, M., Bailey, D. (Eds.) (2004). *Assessing infants and preschoolers with special needs, 3rd edition.* Englewood Cliffs, NJ: Merrill/Prentice Hall.

Pavri, S. (2001). Developmental delay or cultural difference? *Young Exceptional Children, 4*(4) 2-9.

Sandall, S., McLean, M., & Smith, B. (2000). *DEC recommended practices in early intervention/early childhood special education.* Longmont, CO: Sopris West.

Intervention Planning and Evaluation

Rationale:

The IFSP is developed using the information generated during the assessment process. This information provides data on child development and functioning in routine activities, and how the environment promotes or impedes child learning. Interventionists must be

able to take the information from the assessment process and make attainable, individualized objectives and intervention strategies based on the child's overall functioning, competencies and learning style, as well as characteristics of the environment. Once objectives and intervention strategies are identified, there must be a way to ensure that progress toward meeting the stated objectives is occurring. Alternately, on-going data collection is necessary to identify if child progress is not occurring and potential intervention modifications. Data-based intervention planning and on-going evaluation is necessary to make informed intervention decisions.

Relevant Indicators:

E12 Develop objectives based on developmental curricula

E14 Knowledge of infant/toddler developmental curricula

E15 Knowledge of techniques for evaluating effectiveness of interventions for individual child and families

Sample Questions:

1. Developmental curricula can be used to create IFSP objectives when combined with:

   a.   information regarding the family's routine activities and the child's unique strengths and needs.
   b.   the standardized scores for each developmental domain, which identifies the child's unique strengths and needs.
   c.   the parent's identification of next steps to achieve the IFSP outcome since they know the child's unique strengths and needs.
   d.   other developmental checklists or milestone charts.

2. Developmental curricula provide:

   a.   a developmental progression of behaviors or skills.
   b.   an individualized progression of behaviors or skills.
   c.   specific objectives to include on the IFSP.
   d.   specific activities to use in addressing IFSP objectives.

3. The following are techniques for evaluating the effectiveness of interventions:

   a.   graphing frequency data over time.
   b.   identifying newly learned skills on a curriculum measure.
   c.   analyzing qualitative information for child progress.
   d.   all of the above.

Using Developmental Curricula to Develop Objectives. Bruder (1997) defined curricula as "the decision of what to teach (content) and how to teach (methods) *individual* children (p. 524). Every family in early intervention has an *individualized curriculum* outlined on the IFSP. This individualized curriculum is created according to the family's routine activities, the child's current learning and functioning in those routine activities, and emerging developmental competencies that can be identified through a developmental curriculum.

Developmental curricula provide guidance on determining (i.e., assessing) skills or behaviors mastered, emerging, and yet to be learned, along a developmental progression. The hierarchy of items can be used to identify the next expected skills or behaviors from a developmental standpoint, one component of "what to teach" in designing IFSP objectives. However, Bailey (2004) cautioned that "the primary limitations [of using a developmental curriculum] relate to potential over reliance on the existing curriculum and overly specific interpretation of individual items" (Bailey, 2004, p. 34). The items on the curriculum should be evaluated in terms of their:

- developmental appropriateness – is the item appropriate for the child's age *and* individual abilities (Bruder, 1997)?
- functional appropriateness – will learning the item increase the child's participation in routine activities?
- cultural appropriateness – is the item important to the family?

Then, the information gleaned from the developmental curriculum can be modified to fit into the family routine activities and the child's individual competencies to create individualized IFSP objectives. For example, an IFSP outcome for a child with cerebral palsy might be:

Carleigh will run errands with her mother or father and play games with the children in her house by walking without any adult help and saying two words together to talk to her parents and the other children.

According to the *HELP,* Carleigh is emerging in the skill "walking with one hand held" and has not yet begun to "use 10 to 15 words spontaneously," both age appropriate skills to target. However, since Carleigh currently does not use any words, an initial objective would be attained by imitating only 5 words. Also, Carleigh has an infant brother who makes it difficult for her parents to support Carleigh in walking and carry her brother. A weighted push toy is included as an adaptation to match family needs *and* increase Carleigh's independent mobility. The objectives are further contextualized by identifying the routine activities in which these skills will be used. Putting all this information together, the initial objective for the above outcome might be:

Carleigh will play with the children in her house by walking around the living room independently using her weighted push toy and imitating five words during singing games with the other children.

The emerging skills identified on a curriculum should be tailored to the individual competencies of the child and the routine activities in which the child functions, including the priorities and interests of the family.

Intervention Effectiveness. The effectiveness of interventions is most closely measured by demonstrated progress in meeting individual families' IFSP outcomes and objectives. Intervention effectiveness can also be measured through developmental skill attainment evidenced on norm-referenced and criterion-references measures. However, the limitations of these measures (See PreAssessment Planning) must be acknowledged, as well as the indirect relationship between the measures and intervention outcomes.

There are multiple ways of collecting data to assess child progress in meeting IFSP outcomes and objectives. Cooney and Buchanan (2001) identified authentic artifacts of child progress, such as videotapes, audiotapes, photographs or child creations like coloring or painting. Wolery (2004a) described two different data collection methods that directly document behaviors related to IFSP objectives – narrative descriptions and judgment based monitoring, and direct behavioral observation. See Ongoing Assessment for Intervention Decisions section for specific data gathering techniques.

To determine intervention effectiveness over time, the data collected can be aggregated and examined for quantitative or qualitative changes in child functioning. Summarizing or graphing the data over time can illustrate child progress. Aggregated data includes, "totaling the results of each observation; calculating the percentage, rate, or total time; and ordering the data in the sequence in which they were collected by date" (Wolery, 2000a, p.572). Child progress can include an increase (or decrease) in targeted behaviors, decrease in level of assistance, percentage of steps independently completed in an activity, and qualitative changes in functioning.

Norm referenced and criterion referenced (or curriculum based) measures can also be used to determine child progress over time by assessing general child developmental status at the beginning of intervention and a specified time later. By providing intervention strategies that address specific child outcomes and objectives, it is assumed that overall child development would also advance, which would be evidenced in the general developmental measures. Standard scores allow for a comparison across ages (Bailey, 2004). When measures provide developmental age scores, an efficiency index can be calculated by dividing the difference between the developmental ages at the first and second assessment points by the number of months of intervention. This is the process used by the Birth to Three System, using the curriculum based measures submitted by programs (Connecticut Birth to Three System, 2004a). Neisworth and Bagnato (2004) recommend other strategies for documenting child progress using sensitive curriculum-based measures: "graduated scoring options (1-7 scale) to capture stimulus conditions [such as levels of assistance] under which performance is enhanced; ratio quotients; functional ages; growth curves; goal attainment scaling, and hierarchies of skill acquisition (pp. 210-211). The limitation of these measures in determining intervention effectiveness is that, since the items on the measures are not

directly the focus of intervention, the assumption that addressing specific IFSP objectives will translate to increases in overall developmental progress as measured on the instruments may not hold true.

Sample Questions Revisited:

1. Developmental curricula can be used to create IFSP objectives when combined with:

    a.   information regarding the family's routine activities and the child's unique strengths and needs.
    b.   the standardized scores for each developmental domain, which identifies the child's unique strengths and needs.
    c.   the parent's identification of next steps to achieve the IFSP outcome since they know the child's unique strengths and needs.
    d.   other developmental checklists or milestone charts.

a. Developmental curricula provide a guide of potential skills to include in IFSP objectives. These skills however, need to be evaluated in terms of appropriateness for the child's unique learning style and the functionality of the skill with regard to the child's routine activity.

2. Developmental curricula provide:

    a.   a developmental progression of behaviors or skills.
    b.   an individualized progression of behaviors or skills.
    c.   specific objectives to include on the IFSP.
    d.   specific activities to use in addressing IFSP objectives.

a. The items on a developmental curricula represent the typical progression of development, which may or may not be the developmental progression of the individual child (b). Specific objectives are determined according to the child's unique learning style and functioning within the context of routine activities (c), which will then be the context for intervention (d).

3. The following are techniques for evaluating the effectiveness of interventions:

    a.   graphing frequency data over time.
    b.   identifying newly learned skills on a curriculum measure.
    c.   analyzing qualitative information for child progress.
    d.   all of the above.

d. All of the choices are possible ways to evaluate intervention effectiveness. To analyze intervention effectiveness, data collection needs to be ongoing (See Ongoing Assessment for Intervention Decisions).

<u>*Resources:*</u>

Websites:

Project TaCTICS
http://www.tactics.fsu.edu
From Florida State University, provides information about linking assessment to intervention planning.

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