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Culturally and Linguistically Sensitive Practices in Motor Skills Intervention for Young Children

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Abstract

Misunderstandings and conflicts in the areas of motor skills evaluation and intervention can occur between those providing services and those receiving services, if values and beliefs about children and the social and behavioral codes, highly regarded in the traditions of families receiving services, are not addressed by the service providers.

This chapter examines the validity of motor intervention practices that have been described as "quality" practices and the extent to which they are appropriate for all families and children. A review of the motor development literature reveals a need to revise current practices to be more reflective and responsive to families' differing values, traditions, and perceptions regarding young children's motor development.

Existing quality indicators that address core assumptions and professional roles have support in the literature. However, there is a need to consider how a number of variables impact and challenge current thinking about young children's motor development. Examples of these variables include: the child's temperament, the child's form of disability, the caregiver's expectations for the child, and the physical features and setting in which the child lives.

Finally, the authors suggest revisions to selected current practice indicators considering cultural and linguistic differences.

Introduction

While the people of the United States for a long time have represented diverse cultures and traditions, it has only recently been recognized that cultural and linguistic diversity has implications for service provision. Misunderstandings and conflicts in the areas of evaluation and intervention can occur between those providing services and those receiving services if: (a) values and beliefs about children, and (b) social and behavioral codes highly regarded in the traditions of the families receiving services, are not addressed by service providers.

In order to deliver optimal family-centered services, service providers must seriously consider and address issues that pertain to cultural and linguistic differences. The primary purpose of this paper

is to discuss the validity of motor intervention practices that have been described as "quality" practices and the extent to which they are appropriate for families and children representing diverse cultural and linguistic traditions.

A range of both cultural and non-cultural factors can have an impact on a young child's motor development. The interaction between these multiple factors, both intrinsic and extrinsic to children, form a complex network of reciprocating influences that temper children's motor development. Depending on caregiver emphasis and the magnitude of each of the factors (e.g., encouragement to explore, severity of disability), children vary in their attainment of motor skills.

This paper will discuss factors that impact motor development in young children. It will summarize the current quality indicators in the area of motor intervention. In addition, this paper will discuss the extent to which the motor intervention indicators have support in research and practice, and the extent to which the indicators are sensitive to cultural and linguistic differences. Finally, we will recommend revisions in motor intervention quality practice indicators.

Factors that Influence Motor Development in Young Children

In the handbook of Pediatric Physical Therapy, Cintas (1995a) describes a number of factors that impact motor development in young children. She reports that motor development patterns vary based on the interaction between the following variables: (a) child factors (e.g., temperament, motivation, disability), (b) caregiving factors (e.g., parent responses to and shaping of desired child behaviors), and (c) environmental factors (e.g., the physical features or settings in which the child lives).

Child Factors

Child variables that can have an impact on motor development include: (a) temperament, (b) attachment, (c) motivation, and (d) presence of developmental, musculoskeletal, or neurological disorders.

Temperament

Temperament is a characteristic that is "rooted in the infant's central nervous system and [is] 'relatively stable over time, situations, and relationships'" (Lyons-Ruth & Zeanah, 1993, p.19). Temperament may be a critical influence on the child's overt behaviors and responses to intervention strategies (Cintas, 1995a).

Temperament may affect a child's motor activity level, adaptability, and responses to social and environmental cues. Further, certain disabilities may influence a child's temperament. For example, children with disabilities are more likely to have "difficult temperaments" than children who are not disabled (Chess & Fernandez, 1976; Coll, et al., 1986). Thus, interventions may have to be tailored to adequately address the child's temperament.

Attachment

Attachment refers to the emotional relationship between infant and caregiver, which supports and maintains the infant's sense of security. Attachment influences how a child deals with his or her environment. A child who is secure, for example, may enthusiastically explore his or her surroundings while maintaining contact with the primary caregiver. Whereas, a child described as

anxious-resistant may show significant reluctance to separate from the primary caregiver and is usually passive. Cintas (1995a) notes that there is a high correlation between anxious-resistant infants and motor immaturity and self-regulatory problems.

The characteristics of a child's disability, the family's response to the diagnosis and the child's needs, or parental risk needs may influence the caregiver-child relationship and the quality of the child's attachment to the caregiver (Gowen & Nebrig, 1997; Hanson & Hanline, 1990). Intervention strategies, as a result, may need to address attachment issues if motor development is to be positively affected.

Motivation

A child by nature is an active seeker of information and stimulation, motivated to respond to physiological needs as well as to explore and gain control over the environment. Nurtured by responses to their actions, infants and young children learn that certain outcomes are contingent upon their initiation. However, children may lose motivation to explore or try new actions if they perceive their efforts to be limited or if their efforts are not effective. Since a disability may also inhibit the child's persistence and exploration, interventionists may include activity modifications or equipment adaptations to assist the child's active participation (Rosenberg, Clark, Filer, Hump, & Finkler, 1992).

Motivational issues can impact children's motor responses and behaviors, and use of opportunities that facilitate the development of motor skills. Thus, interventions may need to address motivational issues (e.g., lack of interest in exploring; lack of persistence in problem solving and practicing skills) to help children achieve greater self and developmental competence.

Presence of Disability

Developmental, musculoskeletal, or neurological conditions can affect the development of motor skills in many ways. For example, Acquired Immune Deficiency Syndrome (AIDS) may eventually lead to muscle weakness in young children and reduce opportunities for mobility. Depending on the location and severity of spinal cord damage, children with spina bifida demonstrate limited paraparesis (i.e., partial paralysis of lower limbs) to complete paraplegia. Children who are blind or visually impaired may be delayed in independent movement because of limited access to visual motivators that encourage exploration. Developmental delays, on the other hand, can affect children's motivation and capacities to be motorically active.

Knowledge of children's conditions can influence intervention in the following ways: prioritizing motor development goals (e.g., increase muscle tone; teach trunk rotation; teach pull-to-stand); and selecting strategies to teach motor skills (e.g., facilitate movement and exercise in natural contexts; encourage varied sitting positions; assist child to extend arms and pull on table to reach food or toy; provide opportunities in weight-bearing and standing; encourage weight-shifting), and developing opportunities that motivate the child to move and explore (e.g., to locate favorite and familiar toys, to seek adult for attention or assistance, and to play games that encourage interaction with peers).

Caregiving Factors

Based on parent values or expectations for children, parents may engage in caregiving behaviors that: (a) encourage infants to learn and practice specific body movements and postures, (b) emphasize the attainment of certain milestones over others, or (c) optimize the comfort level of children (e.g., minimizing crying). In a review of the literature, Cintas (1995b) notes that parents may engage in such behaviors in order to provide safety and protection, build early autonomy,

promote socialization patterns valued in culture or society, or increase the ease of caring for the young. The family's perception of the child's disability and their expectations for that child will also influence caregiving practices.

It is important for practitioners to understand parents' expectations for their children and their caregiving traditions. If families' views of development and caregiving practices differ from those providing intervention services, it is likely that the families will not be fully invested in the intervention program.

Professionals may be challenged when their professional recommendations are in conflict with the family's values or practices (Cintas, 1989). For example, an early interventionist may believe that an infant who has a physical disability needs an opportunity to move and explore in proximity with family members.

However, this child may be left in a crib for extended periods for several reasons, e.g., safety and other environmental considerations, lack of caregiver expectations that the infant will walk. Or, perhaps the child is less irritable when alone, or the family has other priorities. It is difficult to know the family's rationale without a conversation about the family's priorities, perceptions, and needs.

Physical Features or Settings

Malnutrition, season of birth, and number of people living in a household are examples of physical features that influence motor development of young children (Cintas, 1995a).

Malnutrition may affect motor development by affecting the stature or physical growth and energy level of children.

The season of birth may be associated with the onset of children's locomotion. It is hypothesized that heavier clothing or the absence of floor experience during the cold season may delay the onset of locomotion in some infants.

In environments where chaotic or crowded conditions exist, opportunities for motor skills development may be restricted for the young child.

The critical implication for practice is that the physical environment in which the child lives can enhance or inhibit aspects of motor development. Therefore, by evaluating the features of the child's environment, valuable information may be gained to determine intervention goals and strategies that will likely assist the child in gaining important motor skills.

Quality Practice Indicators

In an effort to refine and increase the quality of services provided to children and families, the Division of Early Childhood (DEC) of The Council for Exceptional Children identified practices that provided the best possible services (McLean & Odom, 1996). Fourteen content areas critical to the field of early childhood special education were examined. Dr. Rebecca Fewell, a recognized expert in the area of motor skills intervention, worked on the identification and validation of quality practices in the area of motor skills intervention. The identification and validation process resulted in 13 quality indicators pertaining to motor skills intervention.

To facilitate discussion in this paper, the indicators of quality practices are summarized and grouped into one of the following three categories: a) assumptions or principles undergirding high quality motor intervention practices; b) professional roles; and c) program organization. Table 1 displays the listing of the current quality practice indicators under each category.

A discussion responding to the following issues is presented next: the extent to which current research or practice supports the quality indicators; and the extent to which the indicators are

culturally appropriate. In order to respond to the issues, literature searches were conducted utilizing the ERIC and CINAHL databases. Current literature was defined as literature published from 1990-1997. Twenty-five articles (e.g., research studies, theory papers, program descriptions, book chapters, training manuals) pertaining to motor development and intervention for young children were reviewed.

TABLE 1
List of the current quality practice indicators in motor intervention
under each category

Core Assumptions

- Intervention is based on theory
- Interventionists have necessary training
- Interventionists are part of a team of service providers

Professional Roles

- Facilitate movement
- Address all motor components
- Use natural contexts
- Adapt as needed
- Promote generalization
- Promote independent mobility
- Promote appropriate social & instructional interactions
- Frequently change children's position

Program Organization

- Guidelines for making motor intervention decisions are available
- Organized opportunities for gross motor activities are scheduled

Support for Indicators in Research and Practice

Core Assumptions

A review of the current literature revealed that the core assumptions of theory, motor intervention training, and teaming need to incorporate additional precepts to better reflect new thinking about families and factors that influence children's motor development. All three indicators require changes.

Theory

Fewell (1996) reported that the theoretical frameworks that have been used by practitioners in the design and implementation of intervention services included the physical developmental, neurodevelopmental, perceptual motor, and sensory integration models. She described the importance of theories as "optimal for supporting children's progress or for alleviating problems" (p.

245). These frameworks were described as providing information relating to children's maturational milestones, with implications for remediation and correction (e.g., normalize muscle tone first, or provide sensory integrative experiences).

While the maturational models continue to be used as basis in recent literature (e.g., Coster, Tickle-Degnen, & Armenta, 1995; DeGangi, Wietlisbach, Goodin, & Scheiner, 1993; Sears, 1994), two key developments indicate that the current models may not be sensitive to cultural differences and interpretations of motor development. The new developments are: (a) an emphasis on the importance of the "function" of motor behaviors over motor milestones, and (b) a preference for an ecological or interactionist approach in providing motor intervention services. The functional and interactional aspects are related to each other.

Motor behaviors can be shaped to meet particular demands of the culture (Cintas, 1995b). Examining and understanding the function of motor behaviors offer service providers critical information relevant to young children's opportunities to learn new skills and practice existing skills across tasks and environments (e.g., Case-Smith, 1996; Schneider, Parush, Katz, & Miller, 1995; Wilson, Polatajko, Kaplan, & Faris, 1995).

For example, a functional evaluation may assess a young child's ability to be mobile in an environment, as opposed to documenting the absence or presence of discrete skills like walking, which is based on maturational theory (Haley & Baryza, 1990). Children's rate and sequence of motor skills may vary based on "parental expectations on motor behavior to meet cultural needs" (Cintas, 1995b, p. 107).

A more sensitive framework than the maturational model to understanding motor development in the cultural context is the dynamic systems model. The dynamic model views "development as the probabilistic outcome of interactions between the organism and environment" (Mitchell, 1995, pp. 100-101).

The indicator of quality practice pertaining to theory, therefore, should be expanded to specify the importance of theories that address not only the ontogenetic or biological influences on motor development. Ecological variables, including culturally-based caregiving practices and expectations that have reciprocal relationships with children's development, are equally important considerations when thinking about influences on children's motor development.

Motor Intervention Training

The second core assumption that "all persons providing motor development interventions receive the necessary education and training" (Fewell, 1996, p. 398) has support in the literature (e.g., Butterfield, van der Mars, & Chase, 1993; Campbell, Kolobe, Osten, Lenke, & Girolami, 1995; Gonzalez-Mena, 1995; Long, 1995; Miller & Roid, 1993; Mitchell, 1995; Mitchell & Mahoney, 1995). However, because motor skills are related to functional skills (e.g., eating, sleeping, caring for self, toileting, independence), and variations in functional behavior "may reflect a cultural rather than a physical difference" (Gonzalez-Mena, 1995, p. 15), training must incorporate content on the influence of culture on children's development in motor skills and other areas.

For example, self-feeding by infants may be objectionable to some parents because food may not be considered something that children should spill and waste (Gonzalez-Mena, 1995). Thus, the indicator for quality practice pertaining to training professional staff needs restatement to emphasize the critical role of culture in caregiving practices, especially if the professionals' previous training experiences were based on maturational models of development.

Teaming

The third assumption that was identified as an essential element of intervention programs emphasizes the importance of having all caregivers participate in promoting children's motor development. This contention is supported in the literature (e.g., Long, 1995; Mitchell, 1995; Sears, 1994).

Among the professional staff cited as important members of intervention teams are physical therapists, occupational therapists, speech-language pathologists, parent educators, classroom teachers, assistive technology specialists, and physical education teachers.

To optimally benefit children, teams should strive to involve families in order to plan and implement "treatment that is acceptable to families" (Mitchell & Mahoney, 1995, p. 161). A key to effective teaming and intervention is respecting families' cultural and familial beliefs (Mitchell & Mahoney, 1995). This means providing the families with an array of intervention activity options, and encouraging families to set their own levels of involvement, which may range from minimal to extensive.

The current quality practice indicator on teaming does not assert the importance of incorporating cultural and familial beliefs. The indicator must therefore be restated to reflect a professional respect for cultural beliefs and preferences in intervention procedures, processes and goals, and to emphasize that these beliefs and preferences should be used to guide the work of team members.

Professional Roles

The second category of quality indicators describes the roles of professional providers when working with children. Based on information from recent literature, several of the indicators also will require expansion by noting additional activities or providing greater specificity.

Address All Components

In describing interventions offered to infants with various diagnoses of neo-natal addiction syndrome, Harris, Osborn, Weinberg, Looock, and Junaid (1993) described a range of activities that addressed the development of multiple types of motor skills. These included "promoting hands-to-midline and hands- to-knees, encouraging active trunk rotation and movement into and out of sitting, facilitating quadrupedal and kneel-standing activities, and encouraging independent walking" (p. 55).

In a conceptual paper, Mitchell (1995) recommended that interventions for children with suspected motor speech disorders address the development of all motor mechanisms necessary for speech. However, a critical context in which these interventions should take place is through "maximum opportunities for interactions with others" (Mitchell, 1995, p. 107), especially parent/caregiver-child interactions (Mitchell & Mahoney, 1995).

The "informal process of responding to parental concerns as they arise" (Mitchell & Mahoney, 1995, p. 165) is a particularly effective and functional way of addressing the multiple components of motor development in young children.

The indicator of quality practice addressing the incorporation of multiple components of motor development should be expanded to include encouraging parents or primary caregivers to use strategies that address the multiple components of motor development. The current indicator does not express the value of professional obligation to respond to questions and encourage parental involvement when addressing the motor development of children.

Promote Independent Mobility

In an intervention program developed for a toddler with an alcohol-related birth defect, mobility was encouraged by having the child "move from station to station and engage in the various activities" (Harris et al., 1993, p. 55). Promoting independent mobility decreases a child's "dependence on his parents for mobility and self-care" (Haley & Baryza, 1990, p. 7).

However, professionals have to be extremely careful in their intervention approaches when addressing mobility issues.

First, professionals have to be careful about using "normal patterns of movement as... (the) gold standard of performance" in mobility (Darrah & Bartlett, 1995, p. 55). In other words, the "new movement solutions" (Darrah & Bartlett, 1995, p. 55) that children demonstrate may well represent functional behaviors or skills appropriate in the children's familial or cultural environments.

Second, a child who "avoids movements or expresses discomfort during movement experiences" (Case-Smith, 1996, p. 36) may require assistance in modulating the vestibular system or integrating sensory information. The importance of promoting independent mobility in children should not be understated. However, considerations of the child's sensory capacities, preferences for movements, and demands in the child's cultural environments (e.g., early autonomy; adaptations to environmental stress) and family priorities should be integrated to inform professionals of the options available to them in promoting children's independent mobility. These considerations should be noted in the quality practice indicator related to building young children's independent mobility.

Promote Appropriate Social and Instructional Interactions

In an observational study describing interactions between occupational therapists and children at "a private practice clinic specializing in sensory integration treatment" (Coster et al., 1995, p. 23), the investigators noted that the therapists modified the position of children or equipment when providing verbal instruction, requesting clarification, and giving positive feedback.

For children who are tactually defensive, appropriate social and instructional interactions should include children's need "to maintain their own space" (Sears, 1994, p. 51), that is, avoiding close proximity or touching the children when interacting with them. Appropriate positioning and handling of children also are essential when trying to improve feeding patterns, increase opportunities for exploration, and increase antigravity strength (Satter, 1992; Schneider, Griffith, & Chasnoff, 1989). In the case of a child with severe postural insecurity (e.g., inability to maintain alignment of body in space in an antigravity position), a "gentle approach to guide him or her in accepting low-to-ground movement" (DeGangi et al., 1993, p. 782) may be combined with strategies to interest the child in self-selecting tasks or activities.

Different child-rearing practices, however, dictate a different "amount and nature of stimulation ... including the amount of auditory, visual, or tactile stimulation, whether play and movement are encouraged and in what way, and whether certain skills are actually taught and practiced" (Schneider, Parush, Katz, & Miller, 1995, p. 20).

The implication for quality practice is that what is considered "appropriate social and instructional interactions" (Fewell, 1996, p. 398) is culturally defined. For example, strong adult roles as "doers" for young children is an important value held by many Hispanic families (Thompson-Rangel, 1994). Therefore, it is possible that therapy efforts to increase a young child's independence (e.g., in dressing) may be in conflict with social and teaching preferences of many Hispanic families who "may continue to dress the child until he or she is 5 or 6 years of age" (Thompson-Rangel, 1994, p.

2).

Another example highlighting instructional practices based on culture is the use of cradleboards by Native Americans, especially the Hopi and Navajo (Cintas, 1995b). Cintas (1995b) reported that the use of cradleboards is a good illustration of the way infant behavior is shaped to benefit both the mother and child. The benefits include ease of caretaking when changing children's diaper and proximity for nursing. Service providers must be prepared to consider and incorporate such functional practices in order to better support child development that is culturally appropriate.

Therefore, while positioning for appropriate social and instructional interactions is a good general quality indicator statement, the ends (i.e., positioning and motor activities) must seriously consider the means (i.e., culturally defined social and instructional norms or values) used in achieving it. The indicator of quality practice should be restated to reflect the importance of incorporating culturally appropriate contexts when positioning children for social and instructional interactions.

TABLE 2 Select current quality practice indicators and suggested revisions	
Current quality practice indicators	Suggested revision to indicators:
Professionals base motor development interventions on theoretical constructs accepted by the field.	Professionals base intervention on theories that incorporate ontogenetic, maturational, and environmental influences on motor development.
All persons providing motor development interventions receive necessary education and training for conducting the interventions.	All persons providing motor development interventions receive necessary education and training for conducting the interventions, including an appreciation for differing culturally-based caregiving practices that may affect children's motor development.
All caregivers for individual children participate in the interventions that enhance motor development.	All caregivers participate in interventions promoting motor development that are based on a respect for family beliefs and preferences.
Professionals provide children with methods for independent mobility.	Professionals provide children with methods for independent mobility based on children's sensory capacities, preferences for movements, and demands in the children's cultural and familial environments.
Motor skills intervention addresses all components of motor development, including but not limited to: strength, physical and motor fitness, postural control, eye-hand coordination, object manipulation, positioning, mobility, adaptation, generalization, parent education, technology, sensory motor integration, and spatial awareness.	Motor skills intervention addresses all components of motor development including but not limited to: strength, physical and motor fitness, postural control, eye-hand coordination, object manipulation, positioning, mobility, adaptation, generalization, parent education, technology, sensory motor integration, and spatial awareness, through culturally meaningful interactions and activities and by responding to parental concerns as they arise.

Professionals and/or caregivers position children in ways that facilitate appropriate social and instructional interactions.

Professionals and/or caregivers position children in ways that facilitate social and instructional interactions based on child-rearing practices valued in the children's familial and cultural environments.

Cultural Appropriateness of Indicators

The current quality indicators on practice in motor intervention are insufficient in reflecting sensitivity to cultural differences. Only about a third of the literature reviewed specifically addressed professional practices in regard to children and families from differing cultures or made a reference to the possibility that cultural beliefs and values influenced children's motor development (e.g., Campbell et al., 1995; Case-Smith, 1996; Cintas, 1995a; Gonzalez-Mena, 1995; Harris et al., 1993; Schneider et al., 1995). Nevertheless, there is enough information to draw some implications about effective motor intervention practices in relationship to the cultural and linguistic diversity that exists in today's society. Changes are needed in some of the current indicators to reflect a respectful attitude and orientation for family-defined activities and level of involvement. Where appropriate, statements reflecting sensitivity for cultural and familial preferences should be embedded in the indicators. Table 2 presents a list of the selected current quality practice indicators and the suggested revised practices in motor intervention reflecting a respect for the cultural diversities that exist in today's American society.

Conclusion

This review examined the extent to which the DEC recommended quality indicators in motor intervention had support in the current research and practice literature. Evidence supporting all 13 indicators was found.

Caveats were drawn from the literature (e.g., use functional approach in assessment; respond to family concerns as they arise; use strategies that are compatible with families' cultural values and infant care procedures) to address specific cultural adaptations.

Based on the caveats and the importance of addressing cultural differences in practice, revisions to several of the quality indicators were suggested. Practices that are culturally sensitive can help build respectful and trusting relationships. Relationships form the foundation in family-centered early intervention services; trusting and respectful relationships can lead to meaningful and functional child outcomes in motor and other developmental areas.

References

- Butterfield, S. A., van der Mars, H., & Chase, J. (1993). Fundamental motor skill performances of deaf and hearing children ages 3 to 8. *Clinical Kinesiology: Journal of the American Kinesiotherapy Association*, 47(1), 2-6.
- Campbell, S. K., Kolobe, T. H., Osten, E. T., Lenke, M., & Girolami, G. L. (1995). Construct validity of the Test of Infant Motor Performance. *Physical Therapy*, 75(7), 9-20.
- Case-Smith, J. (1996). Analysis of current motor developmental theory and recently published infant motor assessments. *Infants and Young Children*, 9(1), 29-41.
- Chess, S. & Fernandez (1976). Temperament and the rubella child. In Z. S. Jaszembska, (Ed.). *The effects of blindness and other impairments on early development. Physical & Occupational*

Therapy in Pediatrics, 8(4),1-20.

Cintas, H. L. (1995a). Growth and development. In T. M. Long & H. L. Cintas (Eds.), *Handbook of pediatric physical therapy*. Baltimore, MD: Williams & Wilkins.

Cintas, H. L. (1995b). Cross-cultural similarities and differences in development and the impact of parental expectations on motor behavior. *Pediatric Physical Therapy*, 7, 103-111.

Coll, C. G., Vohr, B., Ward, M. A., Brann, B., Shaul, P., & Mayfield, S. (1986). Temperament responses of full-term and premature infants with varying degrees of intraventricular hemorrhages (IVH). [*Infant Behavior and Development*, 9, Special ICIS Issue], Abstract v80.

Coster, W., Tickle-Degnen, L., & Armenta, L. (1995). Therapist-child interaction during sensory integration treatment: Development and testing a research tool. *The Occupational Therapy Journal of Research*, 15(1), 17-35.

Darrach, J., & Bartlett, D. (1995). Dynamic systems theory and management of children with cerebral palsy. *Infants and Young Children*, 8(1), 52-59.

DeGangi, G. A., Wietlisbach, S., Goodin, M., & Scheiner, N. (1993). A comparison of structured sensorimotor therapy and child-centered activity in the treatment of preschool children with sensorimotor problems. *The American Journal of Occupational Therapy*, 47(9), 777-786.

Fewell, R. (1996). Intervention strategies to promote motor skills. In S. L. Odom & M. E. McLean (Eds.), *DEC recommended practices: Indicators of quality in programs for infants and young children with special needs and their families*. Reston, VA: Council for Exceptional Children.

Gonzalez-Mena, J. (1995). Cultural sensitivity in routine caregiving tasks. In Far West Laboratory Center for Child & Family Studies, *Infant/toddler caregiving: A guide to culturally sensitive care*. Sacramento, CA: California Department of Education.

Gowen, J. W. & Nebrig, J. B. (1997). Infant-mother attachment at risk: How early intervention can help. *Infants and Young Children*, 9(4), 62-78.

Haley, S. M., & Baryza, M. J. (1990). A hierarchy of motor outcome assessment: Self-initiated movements through adaptive motor function. *Infants and Young Children*, 3(2), 1-14.

Hanson, M. J. & Hanline, M. F. (1990). Parenting a child with a disability: A longitudinal study of parental stress and adaptation. *Journal of Early Intervention*, 14, 234-248.

Harris, S. R., Osborn, J. A., Weinberg, J., Loock, C., & Junaid, K. (1993). Effects of prenatal alcohol exposure on neuromotor and cognitive development during early childhood: A series of case reports. *Physical Therapy*, 73(9), 50-59.

Long, T. M. (1995). Administrative issues. In T. M. Long & H. L. Cintas (Eds.), *Handbook of pediatric physical therapy*. Baltimore, MD: Williams & Wilkins.

Lyons-Ruth, K., & Zeanah, Jr., C. H. (1993). The family context of infant mental health: I. Affective development in the primary caregiving relationship. In C. H. Zeanah, Jr. (Ed.), *Handbook of infant mental health*. New York: The Guilford Press.

McLean, M. E., & Odom, S. L. (1996). Establishing recommended practices in early intervention/early childhood special education. In S. L. Odom & M. E. McLean (Eds.), *DEC recommended practices: Indicators of quality in programs for infants and young children with special needs and their families*. Reston, VA: Council for Exceptional Children.

Miller, L. J., & Roid, G. H. (1993). Sequence comparison methodology for the analysis of movement patterns in infants and toddlers with and without motor delays. *The American Journal of Occupational Therapy*, 47(4), 339-347.

Mitchell, P. R. (1995). A dynamic interactive developmental view of early speech and language production: Application to clinical practice in motor speech disorders. *Seminars in Speech & Language*, 16(2), 100-109.

Mitchell, P. R., & Mahoney, G. (1995). Team management for young children with motor speech disorders. *Seminars in Speech & Language*, 16(2), 159-172.

Rosenberg, S., Clark, F., Filer, J., Hump, S., & Finkler, D. (1992). Facilitating active learner participation. *Journal of Early Intervention*, 16, 262-274.

Satter, E. (1992). The feeding relationship. *Zero to Three*, 12(5), 1-9.

Schneider, J. W., Griffith, D. R., & Chasnoff, I. J. (1989). Infants exposed to cocaine in utero:

Implications for developmental assessment and intervention. *Infants and Young Children*, 2(1), 25-36.

Schneider, E., Parush, S., Katz, N., & Miller, L. J. (1995). Performance of Israeli versus U.S. preschool children on the Miller Assessment for Preschoolers. *The American Journal of Occupational Therapy*, 49(1), 19-23.

Sears, C. J. (1994). Recognizing and coping with tactile defensiveness in young children. *Infants and Young Children*, 6(4), 46-53.

Thompson-Rangel, T. (1994). The Hispanic child and family: Developmental disabilities and occupational therapy intervention. *Developmental Disabilities Special Interest Newsletter*, 16 (1), 2.

Wilson, N. W., Polatajko, H. J., Kaplan, B. J., & Faris, P. (1995). Use of the Bruininks-Oseretsky Test of Motor Proficiency in occupational therapy. *The American Journal of Occupational Therapy*, 49(1), 8-18.

Annotated Bibliographies

Case-Smith, J. (1996). Analysis of current motor development theory and recently published infant motor assessments. *Infants and Young Children*, 9 (1), 29-41.

Summary

The author emphasized the importance of an ecological perspective in viewing children's motor development. Because infants "use a wide variety of unique movements to reach their motor goals" (p. 30), examining infants' functional use of motor skills offer early interventionists critical information about the infants' learning processes and abilities to function across different conditions (e.g., tasks; environments). The author applied the principles of the dynamic systems theory to practice, especially assessment.

Key Findings

- Sensory and perceptual experiences of infants impact their movement patterns (i.e., the environment provides a continuous stream of multisensory input and helps child in exploring and learning about the environment).
 - Infants adapt motor patterns "to meet the demands of the task within a continually changing environment" (p. 31).
 - Infants learn to "restrict the variability and range of movement and ultimately produce functional motor synergies or patterns" (p. 31).
 - Understanding the interaction between intrinsic (e.g., biomechanical constraints) and extrinsic factors (e.g., demand in performance) to the child offers information on the "constraining and driving systems that have the greatest influence on motor development" (p. 32).
 - Implications for assessment include: a) measure functional movement of children in their natural environments; b) adapt assessment based on the children's responses to the testing stimuli; c) consider the influence of the environment; and d) measure the qualitative aspects of posture and movement "that are important to functional skill" (p. 33).
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Cintas, H.L. (1995). Cross-cultural similarities and differences in development and the impact of parental expectations on motor behavior. *Pediatric Physical Therapy*, 7, 103-111.

Summary

The author reviewed the literature on "cultural variations in motor development, balanced by an emphasis on factors unrelated to or coexisting with culture" (p. 103). She said a substantial amount of evidence is available that indicate motor development is "somewhat variable and can be shaped to meet particular cultural demands" (p. 103). The review included populations from around the world and has implications for parent-professional relationships, practice, and personnel training.

Key Findings

- Cultural and non-cultural variables interact with each other to influence children's motor development.
- Parents engage in behaviors that provide safety and protection, build early autonomy, promote socialization patterns valued in the culture or society, or increase ease of caring for the young; these behaviors impact the motor development of children.
- Based on parent values or expectations, parents may engage in caregiving behaviors that: (a) posturally challenge infants; (b) emphasize the attainment of certain milestones over others; or (c) optimize the comfort level of children.
- Professional practice must "reflect an understanding of culturally-based influences which may contribute to variations in children's motor development" (p. 109). Case-Smith, J. (1996). Analysis of current motor development theory and recently published infant motor assessments. *Infants and Young Children*, 9 (1), 29-41.

Resources

The Newborn [Video]

Alice Giordano Janet Gonzalez-Mena Arleen Prairie Rhoda Olenick

Summary

This 29-minute videotape recording is part of a series that provides the setting for the understanding of the unfolding process of human development from the beginning of life through adolescence. This videotape focuses on the characteristics and development of the infant from birth through the first four weeks of life. Topics discussed include developmental stages; the importance of parent-child bonding; infant evaluation; problems that premature infants face; colic; breastfeeding; and cognitive, motor, and sensory development.

Bibliographic Information

Alice Giordano, Janet Gonzalez-Mena, Arleen Prairie, Rhoda Olenick, Barbara Lancelot. *The Newborn [Video]* (1991). Magna Systems, Inc.: Barrington, IL. Language: English

Availability

Discounts available for bulk orders, one copy of the Developing Child Workbook free with each order.

May be ordered for \$89.95 /copy from:
Magna Systems, Inc.

95 West County Line Rd.
PO. Box 26110
Barrington, IL 60010
(847) 382-6477 phone
(847) 382-6485 fax

Producer Information

- **Intended User Audience:** The intended audience for this material includes teachers, caregivers, and service providers in early childhood education.
- **Product Development:** The above authors, who are professionals in early childhood education, along with those that appear in each videotape developed the videotapes. Those in the videotapes are from a variety of cultural and linguistic backgrounds, including European Americans, Asian Americans, Hispanics, and African Americans.
- **Product Evaluation:** The series has not been formally evaluated.
- **Product Dissemination:** Over a thousand copies of the videotapes have been distributed throughout North America and worldwide.

Preschoolers: Beginnings in Cognition [Video]

Summary

One in a series of videotape cassettes on child development, this 28-minute videotape focuses on the physical and cognitive development of preschool children. It addresses the following: (a) gross and fine motor skills, (b) perceptual development, (c) ways of learning and characteristics of preschool thinking, and (d) new uses of language.

Bibliographic Information

Alice Giordano, Janet Gonzalez-Mena, Arleen Prairie, Rhoda Olenick, Barbara Lancelot.
Preschoolers: Beginnings in Cognition [Video] (1998). Magna Systems, Inc.: Barrington, IL.
Language: English

Availability

May be ordered from: Magna Systems, Inc.
95 West County Line Rd., PO. Box 26110
Barrington, IL 60010
(800) 203-7060 phone
(815) 459-4280 fax

Producer Information

- **Intended User Audience:** The intended audience for this material includes teachers, caregivers, and service providers in early childhood education.
- **Product Development:** The above authors, who are professionals in early childhood education, along with those that appear in each videotape developed the videotapes. Those in the videotapes are from a variety of cultural and linguistic backgrounds, including European Americans, Asian Americans, Hispanics, and African Americans.
- **Product Evaluation:** The series has not been formally evaluated.
- **Product Dissemination:** Over a thousand copies of the videotapes have been distributed throughout North America and worldwide.

Toddlerhood: Physical and Cognitive Development [Video]

Alice Giordano, Janet Gonzales-Mena, Arleen Prairie, Rhoda Olenick, Barbara Lancelot

Summary

This 26-minute videotape recording is part of a series that provides the setting for the understanding of the unfolding process of human development from the beginning of life through adolescence. This videotape focuses on the physical and cognitive development of toddlers. The importance of parent interaction and stimulation of toddlers is stressed.

Bibliographic Information

Alice Giordano, Janet Gonzales-Mena, Arleen Prairie, Rhoda Olenick, Barbara Lancelot. Toddlerhood: Physical and Cognitive Development [Video] (1991). Magna Systems, Inc.: Barrington, IL. (34 pages, taken from workbook). Language: English

Availability

Discounts available for bulk orders, one copy of the Developing Child Workbook free with each order. May be ordered for \$89.95 per copy from: Magna Systems, Inc. | 95 West County Line Rd. | PO. Box 26110 | Barrington, IL 60010 (847) 382-6477 phone 1 (847) 382-6485 fax

Producer Information

- **Intended User Audience:** The intended audience for this material includes teachers, caregivers, and service providers in early childhood education.
- **Product Development:** The above authors, who are professionals in early childhood education, along with those that appear in each videotape developed the videotapes. Those in the videotapes are from a variety of cultural and linguistic backgrounds, including European Americans, Asian Americans, Hispanics, and African Americans.
- **Product Evaluation:** The series has not been formally evaluated.
- **Product Dissemination:** Over a thousand copies of the videotapes have been distributed throughout North America and worldwide.

El Aprendizaje a Traves de Juegos y Juguetes (Learning, Play, and Toys)

The Parent/Child Education Program Hadley School for the Blind

Summary

This home study course, presented in Spanish, is designed to teach parents how to facilitate educational and therapeutic play for their children with visual impairments or multiple disabilities. The course consists of six lessons as follows: Why Play?; The Value of Play; The Development of Play; Special Considerations; The Logistics of Play; and Toys. Each lesson includes a number of self-quizzes and an exam on the material covered; a final exam culminates the course. Appendices provide a developmental sequence of play activities for children from newborns to preschoolers.

Bibliographic Information

The Parent/Child Education Program, Hadley School for the Blind. El Aprendizaje a Traves de Juegos y Juguetes (Learning, Play and Toys) (1997). The Hadley School for the Blind: Winnetka, IL. (216 pages). Language: Spanish and English.

Availability

May be ordered from: Hadley School for the Blind | 700 Elm | Winnetka, IL 60093 | (800) 323-4238 phone

Producer Information

- **Intended User Audience:** The intended user audience of these manuals includes parents and family members of children who are blind or who have significant visual impairments. The level of previous experience with the topic is intended to be introductory. The course is intended to be completed by parents at their homes. The manuals are not intended for any specific geographical area (see product dissemination).
- **Product Development:** The material was developed by staff members at the Hadley School: teachers of children with visual impairments and early childhood service delivery personnel. The developers have Euro-American backgrounds, but several families with Hispanic backgrounds reviewed the material during its development (for the English version). The Spanish language translation was completed by Avellino Yaguno, who is a full time translator based at Northwestern University in Evanston, Illinois. If needed, more information about the translator may be obtained from David Buddle at the Hadley School.
- **Product Evaluation:** One family formally field tested the material and provided comments prior to finalizing the English version of this material (the family had a South American background), but other than this there has been no formal evaluation or field testing.
- **Product Dissemination:** Approximately 1,500 copies of the English version entitled Learning, Play, and Toys have been disseminated since it was originally published. Although the material has mostly been disseminated in the U.S. (Texas, Illinois, New York, Idaho, and Pennsylvania are examples of recent order addresses), there has been some international distribution, including India and England. Approximately 25 copies of the Spanish language version have been disseminated to Spanish-speaking families and others who have made requests.

Let's Eat: Feeding a Child with a Visual Impairment

Jill Brody Lynn Webber

Summary

This guide is intended to help parents and caregivers of young children with visual impairments teach competent feeding skills. After an introduction, a section on stages in learning to eat discusses eating behaviors of infants and young children with visual impairments at various ages. Examples of some specific problems and solutions are included. The next section discusses issues that may contribute to delayed development of mature feeding skills. These include diminished visual acuity, misinterpretation of a child's cues, tactile defensiveness, lack of anticipation, repetitive movements, behavioral issues, related impairments, neuromuscular problems, arching, tongue thrust, and immature reflexes. Information is provided on four organizational resources.

Bibliographic Information

Jill Brody, Lynn Webber. Lets Eat: Feeding a Child with a Visual Impairment (1994). Blind Children's Center: Los Angeles, CA. (28 pages). Also available in video format. Language: English

Availability

May be ordered from: Blind Children's Center | 4120 Marathon Street | Los Angeles, CA 90029
(800) 222-3566 phone

Producer Information

- **Intended User Audience:** The intended audience for the material includes parents and

- childhood special education.
- **Product Development:** Faculty, trainers, and service delivery personnel were involved in developing this material. This group represented the disciplines of early intervention and early childhood special education. English- and Spanish-speaking professionals, along with families from both cultures, worked on this material.
- **Product Evaluation:** At the present time, no formal evaluation has been completed on this material. Currently, there are no plans for evaluation.
- **Product Dissemination:** At the present time, 7377 copies of the English version of this material, 1002 copies of the Spanish version, and 803 copies of the video have been disseminated throughout the United States as well as worldwide.

Project Prepare: P.L.A.Y.: Competency-Based Personnel Preparation in Early Childhood Education

Sally Pisarchick Phillip Safford Judith Stahlman Cathy Oriole Deborah Goodwin Edith Greer

Summary

One of nine competency-based training modules for personnel preparation in early childhood special education, this guide focuses on the importance of play and learning in preschool programs. All modules are adaptable for use with a general audience, direct service personnel, or administrators and are based on the following principles of the Ohio Department of Education's Division of Early Childhood Education: developmentally appropriate practice, integration of children with disabilities with typically developing peers, collaborative relationships with families, attention to individual needs, and provision for and valuing of diversity among young children and their families. Modules are intended to be used in whole, in part, in groups, or for self-instruction. Each module comprises goals, competencies (knowledge, skills, values, and attitudes), and objectives, with a matrix for each objective identifying enabling activities, resources, and leader notes. Relevant handouts, forms, and readings are provided for each objective. This module provides participants with four major goals: (a) to recognize the characteristics of play in young children and its relationship to developmentally appropriate practice; (b) to comprehend the significance of play in the development of young children; (c) to understand the correlation between play and learning-related activities; and (d) to become familiar with relevant teaching techniques associated with play.

Bibliographic Information

Sally Pisarchick, Phillip Safford, Judith Stahlman, Cathy Oriole, Deborah Goodwin, Edith Greer, Margaret MacLearie, Willa Walker. Project Prepare: P.L.A.Y.: Competency-Based Personnel Preparation in Early Childhood Education (1995). Ohio Dept. of Education: Columbus, OH. (454 pages). Language: English

Availability

Available on a loan basis only from Ohio Dept of Education or affiliates: Division of Early Childhood Education | Information Dissemination | 470 Glenmont Avenue | Columbus, OH 43214 | (614) 466-0224 phone

May also be purchased from the ERIC Document Reproduction Service (EDRS). Call 1(800) 443-3742 or visit <http://edrs.com>.

Producer Information

- **Intended User Audience:** This model is intended for administrators, parents, students,

advanced level. The material speaks to the needs of multicultural groups, though it is only available in English. The material is designed for both inservice training of professionals and for parent education.

- **Product Development:** The material was researched and developed by teams of service personnel with leadership provided by a Director/Research Team. Administrators, parents, faculty, service delivery personnel and paraprofessional participated in the development of this material. Those who participated in the development were from a variety of disciplines, including audiology, early intervention/early childhood special education, occupational therapy, psychology, nursing, family therapy, physical therapy, and speech pathology.
- **Product Evaluation:** The material was evaluated by a steering committee comprised of local leadership in early childhood with state and regional leaders from Ohio, a reactor panel, university leadership, and the members of the 8 teams involved in the development of the other 8 modules field-tested in the state of Ohio. Those that participated in the evaluation included European Americans, African Americans, and Puerto Ricans.
- **Product Dissemination:** Approximately 400 sets of Project Prepare have been distributed. The modules have been distributed through the Ohio Department of Education Special Regional Service Center to Directors of Ohio Early Childhood Programs, instructional resource coordinators, higher education trainers in early childhood, and supervisors of early childhood programs.

Starting Points: Instructional Practices for Young Children Whose Multiple Disabilities Include Visual Impairment

Deborah Chen Jamie Dote-Kwan

Summary

This handbook provides basic information on the needs of young children (ages 3-8) whose multiple disabilities include visual impairments. Chapters address the following topics: (1) common disabilities associated with visual impairment, the primary educational needs of these children, and the complexity involved in teaching them; (2) the need for clearly defined program philosophies, goals and practices to promote meaningful learning opportunities, including meeting exceptional learning needs, involving the child as an active learner, and integrating objectives from various disciplines; (3) procedures to develop and to plan instruction that are meaningful to the child and important to the family; (4) selected instructional strategies such as task analysis, chaining and shaping, use of natural cues and instructional prompts, fading, and creating an environment that encourages active participation; (5) strategies for promoting communication with nonverbal children and those who have severe language difficulties; (6) specific adaptations and strategies for working on daily living skills; (7) roles and responsibilities of a behavior support team, orientation and mobility specialists, and an occupational therapist; (8) the development of an instructional program for a 4-year-old child with multiple disabilities, including visual impairment; and (9) strategies for facilitating communication between the special education and regular education teacher. A final chapter details a family's experience in parenting a little boy who is blind and has multiple medical needs. Each chapter contains references.

Bibliographic Information

Deborah Chen, Jamie Dote-Kwan. Starting Points: Instructional Practices for Young Children Whose Multiple Disabilities Include Visual Impairment (1995). Blind Children's Center: Los Angeles, CA. (157 pages). Language: English

Availability

May be ordered from: Blind Children's Center | 4120 Marathon St. | Los Angeles, CA 90029 (800) 222-3566 phone 1 (213) 665-3828 fax

Producer Information

- **Intended User Audience:** This handbook is intended for service delivery personnel as well as administrators, college faculty and preservice educators who work in early childhood/early intervention settings with children from 3-5 years (primarily) who have visual impairments and other disabilities. The level of experience is intended to be introductory and beginning. The intent is that the material will be used with preschoolers who have visual impairments and other disabilities in general. No specific cultural or linguistic group is otherwise targeted.
- **Product Development:** The material was developed by personnel in the early childhood special education, Occupational Therapy, Orientation and Mobility and Special Education/Visual Impairments fields. The cultural background of the developers was Asian American, Euro-American, and Hispanic American. The material has not been translated into other languages.
- **Product Evaluation:** The material has not been formally evaluated or field-tested.
- **Product Dissemination:** 1,610 copies of Starting Points have been distributed. Dissemination has been national, as well as some international dissemination to Englishspeaking countries such as England, Australia, Canada, India, New Zealand and Switzerland.

Teams in Early Intervention: Occupational/Physical Therapy Module

Patti Oetter Beth Provost Carla Coy Williams

Summary

Project TIE (Teams in Early Intervention) was conceptualized to meet the need for the following: (a) involvement of formerly "ancillary" service professionals in early intervention for children with disabilities, (b) high quality family-centered services, and (c) training in the team approach. The project provides training to four groups that might constitute an early intervention team: speech/language pathologists, motor therapists, health care professionals, and family members. This training module on occupational therapy and physical therapy outlines reasons for consulting with occupational/physical therapists (OT/PTs) as members of the interdisciplinary team; explores areas of information that should be shared between OT/PTs and health care professionals, speech/language pathologists, and family members; discusses what health care professionals can expect from an ongoing collaboration with an occupational/physical therapist; offers a mechanism for determining what other team members want from OT/PTs; and examines how OT/PTs' expertise can be applied to the Performance Competence Model to understand how children interact with their environment. Three overheads and handouts are appended.

Bibliographic Information

Patti Oetter, Beth Provost, Carla Cay Williams. Teams in Early Intervention: Occupational/Physical Therapy Module (1993). Center for Family & Community Partnerships, Dr. Meave Stevens Dominguez: Albuquerque, NM. (18 pages). Language: English

Availability

May be ordered from: Center for Family and Community Partnerships, Room 378 I Hokona Hall I College of Education, University of New Mexico I Albuquerque, NM 87131 (505) 277-9918 phone

Producer Information

- services in multiple disciplines primarily for team use.
- **Product Development:** Family members with children with developmental disabilities and professionals from multiple disciplines, such as educational diagnosis, educational psychology, speech language pathology, and early childhood special education developed the manual. The developers included Native Americans, Hispanics, Asian Americans, African Americans, and European Americans.
 - **Product Evaluation:** These modules have not been formally evaluated but were informally field-tested during development.
 - **Product Dissemination:** There have been approximately 150 copies of the manual distributed in the U.S.A.

Toilet Training: A Guide for Parents with Children with Special Needs

Susannah Henderson Bonneita Beswick Douglas Florey

Summary

This booklet provides parents with an introduction to principles and methods of toilet training, emphasizing patience and positive reinforcement. Special toilet training challenges faced by children with special needs are discussed, as are the rewards of successful toilet training. Signs that the child is ready to begin training are discussed, as are important times to not undertake such training. A sample log for recording the child's elimination patterns is provided with instructions for its use. The merits of diapers and training pants are then examined, followed by tips for making the bathroom a training-friendly environment. A ten-step routine for toileting is outlined and each step discussed in detail.

Bibliographic Information

Susannah Henderson, Bonneita Beswick, Douglas Florey. Toilet Training: A Guide for Parents with Children with Special Needs (1997). Family Centered Preschool Project: Pittsburgh, PA. (14 pages). Language: English

Availability

May be ordered from: Family Centered Preschool Project | University of Pittsburgh 4D23 Forties Quad | 230 South Bouquet Street | Pittsburgh, PA 15260 | (412) 648-1770 phone

Producer Information

- **Intended User Audience:** This module was written primarily for parents and adult family members of children with disabilities. It may also be useful for service delivery personnel (especially family service workers), administrators, faculty/trainers, paraprofessionals, and pre-service students in a variety of fields. The module was written for a universal population for whom English is the first language or who are proficient in English. This module was initially developed for individuals residing in the Pittsburgh area. However, it may be useful throughout the United States.
- **Product Development:** This module was developed at the University of Pittsburgh by the staff of the Family Centered Preschool Project, under the funding of a U.S. Department of Education grant. Family members and early intervention service delivery personnel participated in the development of this module. Approximately 75% of the families who participated were African-American, while 25% were European-American.
- **Product Evaluation:** Evaluation of this module was done using surveys. Most of the family members and early intervention service delivery personnel and administrators who participated in the survey were from Pennsylvania, South Dakota, Louisiana, and Michigan. Dr. Kaczmarek is currently preparing an evaluation report. Preliminary reports are currently

- available from the Project Coordinator.
- **Product Dissemination:** As of 1998, 186 copies had been distributed and sold. Major orders came from school districts and early intervention programs in Pennsylvania, South Dakota, Louisiana, and Michigan.

Early Childhood Research Institute on
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51 Gerty Drive
Champaign, Illinois 61820-7498
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