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The Application of Werner and Kaplan's Concept of "Distancing" to Children Who Are Deaf-Blind

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Abstract: Through the process of distancing, children develop an understanding of the differences between themselves and others, themselves and objects, and objects and representations. Adults can support progressive distancing in children who are congenitally deaf-blind by applying strategies, such as the hand-under-hand exploration of objects, the selection of communication forms that are based on children's level of representation, the use of cues for recall that are based on children's experiences, and modeling of more complex play schemes.

Children who are congenitally deaf-blind often struggle to develop an understanding of symbols, a necessary prerequisite to the development of language (Rowland & Stremel-Campbell, 1987; Siegel-Causey & Downing, 1987; Stremel-Campbell & Matthews, 1988). Without symbolism, one is bound to the present and cannot communicate about people and objects unless they are in the current context. Distancing—a gradual process that includes the separation of self from others (physically and psychologically), separation of self from objects, and separation of object and representation—is essential to the development of communication, including the understanding of symbols. This article discusses the application of Werner and Kaplan's concept of distancing to research on and the education of children who are deaf-blind.

The origin of distancing

Along with Lev Vygotsky and Jean Piaget, Heinz Werner is regarded as one of the most renowned developmental psychologists of the 20th century. Werner and his colleague, Bernard Kaplan, contributed greatly to our understanding of the role of personal experience in learning. It is interesting to note that while their work has greatly influenced research and teaching practices in the field of deaf-blindness, their early thinking was shaped by the experience of deaf-blindness. An examination of Werner and Kaplan's (1964) writing reveals that they regarded the famous scene of Helen Keller and her teacher Anne Sullivan at the water pump as evidence of the importance of contexts of action to the achievement of symbolic expression.

Werner and Kaplan (1964) also considered the unique role of the Tadoma teaching method, when paired with exaggerated gross motor–movement cues, as additional evidence of the importance of action. The Tadoma approach was being used at Perkins School for the Blind, where Anne Sullivan was educated. Werner and Kaplan recognized the importance of shared meaning between children and their caregivers, thus asserting the importance of the role of social context in the acquisition of symbols (Slade, 1987). Components of Werner and Kaplan's theory, particularly the concept of distancing, were adopted by others who had a profound impact on education and research in the field of deaf-blindness. Most notable is Jan Van Dijk, whose theory was based on Werner and Kaplan's contributions on symbolic development, coupled with contributions from Van Uden's theory of how deaf children acquire language and from theorists on attachment, including John Bowlby, and Mary Ainsworth (MacFarland, 1995, p. 222).

Werner and Kaplan (1988) defined four key components of symbolic expression: the addressor, the addressee, the object to be

represented, and the representation. As children progress toward the use of symbols, they establish increasing distance between themselves and their communication partners, between themselves and the object to be represented, and in levels of representation. Evidence of distancing also can be found in children's use of cues for recall and in the increasing complexity of children's play. When symbolic thought is achieved, children can communicate about a referent (the person or object that is the subject of a representation) that is no longer in the present physical or temporal context.

Distancing from others

Children's establishment of distance between themselves and others is dependent on the children's understanding of themselves as separate individuals. This understanding, first gained between children and their primary caregivers, is then extended to additional communication partners. Controversy exists over whether the process of knowing oneself as separate from others (also known as individuation) begins with an understanding of oneself or an understanding of others that is extended to define oneself (Muller & Runions, 2003). This controversy is particularly interesting when one considers the unique circumstances of children who have little functional vision or hearing to assist in this process. The following markers are strong indications of the achievement of separateness in young children: recognizing themselves in a mirror, saying no, using personal pronouns, and responding to and saying their own names (Rogers & Puchalski, 1984).

Children who are deaf-blind

Vision plays a strong role in helping children to form attachments with others, gain an understanding of themselves, and perceive the distance between themselves and others. Hearing also

contributes to their understanding of their separateness from others. For example, children learn to associate self-produced sounds with their own movements or sounds that are produced by others, such as the approach and comfort of caregivers. Children who are congenitally deaf-blind experience delayed distancing between themselves and others. They may even persist in viewing themselves as extensions of others (Van Dijk, 1965). Their use of pronouns is usually delayed, as is their representation of themselves in play (Miles & Riggio, 1999).

Adults assist infants to gain an understanding of themselves by capitalizing on daily events, such as bathing or dressing time, to teach about body parts. McInnes and Treffry (1982) provided a detailed description of how to facilitate an understanding of body parts and early gross motor development in children who are deaf-blind. Such an understanding of the physical self provides the foundation upon which movement, exploration, and early dialogue (through body language) can be built.

Van Dijk's resonance phenomenon strategies require an adult to join in a child's physical actions while creating pauses that elicit a response from the child, often a motor reenactment that the adult can interpret as a request for more (MacFarland, 1995; Stillman & Battle, 1984). For example, when a child splashes in a tub of water, the adult joins in, also using the hands to splash. When the child stops splashing, the adult stops. When the child resumes splashing, so does the adult. In the beginning, the adult must respond to the child's behaviors as if there was communicative intention, and over time, intentional communication will be shaped. The benefits of resonance activities include teaching the child to gain the attention of others, building the child's awareness of how his or her actions affect the environment, establishing relationships with others, and introducing turn taking (MacFarland, 1995; Stillman & Battle, 1984).

As a child learns to move coactively with adults, he or she is expected to deliberately signal for the continuation of an activity (MacFarland, 1995). Greater distance is created in coactive movement as the child learns to imitate a variety of movement sequences with an increased physical distance between himself or herself and the adult. These early dialogues between the child and the caregiver involve far more than turn taking. Performed through body language, they offer the child opportunities to practice interpreting the adult's actions, which is important for establishing psychological distance (Cocking & Renninger, 1993).

Social imitation also plays a part in the process of distancing oneself from others. It is through imitation that children come to compare their own actions with the actions of others. Imitation provides a rich context in which children learn how the actions of others are similar and different. Thus, children distance themselves from others both physically and psychologically.

Distancing from objects of reference

The early understanding of objects is based on children's motor and affective experiences of objects (Van Dijk, 1967). It is through shared experiences involving objects that children gain valuable concepts and communication skills (Werner & Kaplan, 1988). To share such an experience, a child and an adult must establish joint attention around an object. The quality of the child's exploration of objects, supported by others who are more knowledgeable, will expand the child's perceptions of objects. These perceptions will form the basis of labeling and commenting on objects and of categorization; however, the child must do far more than explore and learn about objects. He or she must come to hold the object in regard, to contemplate the object (Werner & Kaplan, 1964). So, as the child interacts directly with the object, but with increasing distance, he or she learns to think about the object, including its differences from and similarities to new

objects.

Children who are deaf-blind

Vision and hearing support children's recognition of the presence of objects and other people, which is necessary to establish joint attention around objects (Preisler, 1995). Vision allows children to learn about the permanency of objects without any special effort because objects can be seen at times when they are not being touched. Sighted children also have more opportunities to witness the partial and full concealment of objects, which aides in their achievement of object permanency. This sense of permanency facilitates the children's gradual distancing of themselves from objects, which is important to holding an object in memory and to contemplation.

Sighted children learn about the world through a whole-to-parts approach. Through vision, they can immediately view the "whole" of an object and then focus on the details, which helps them to easily note similarities and differences. Children who are blind or deaf-blind learn through a parts-to-whole approach, whether they are using functional vision or touch. They may not have the opportunity to explore the "whole" of an object; thus, they may identify key characteristics that are different from those noted by sighted children. For example, a child touches the door handle of an oven and is told, in sign language, that it is an oven. Unless the child has opportunities to explore more of the oven, he or she will eventually associate the sign for oven with the oven door, and his or her perceptions about what constitutes an oven will be distorted and incomplete. This often happens when objects are too large or too dangerous to be touched in their entirety, although they can be seen. Children who are deaf-blind have unique perceptions of objects that may hinder their ability to name them and to identify varied cues for recall. Even the way children who are deaf-blind use objects in play may be unusual

because of these idiosyncratic perceptions.

Children who are congenitally deaf-blind need support to engage with objects. They need environments that are physically consistent, so that they come to understand the location of objects. It is especially important to select what Van Dijk (1967, p. 80) called "things of action," or objects that allow children to perform physical actions. Children who are deaf-blind also need the support of adults to explore objects. This is best achieved by using the hand-under-hand exploration technique as described by Miles (1998), so they are offered opportunities to perceive the "whole" of an object. For example, if a child touches the tail of a toy riding horse, the adult may offer her hands to support the child in exploring the rest of the horse. The adult's hands are under the child's with part of the child's hands extending beyond the adult's to allow the child to have control in the exploration. In this hand-under-hand fashion, the trusted adult helps the child to feel secure when exploring the rest of the horse. It is equally critical to allow the child's interest to be the guide (Nelson & Van Dijk, 2002). Children's motivation to continue to explore will be greater for objects that they prefer. Active exploration of objects is of even greater importance to the development of language than is exposure to fluent users of language (Bruner, 1990).

One tool that is useful in assessing the level of interaction with objects is *Assessing Interaction with Objects: Parents and Visually Impaired Infants* (Friedman & Chen, 1990). This assessment measures a child's level of object manipulation, functional use of hands, and problem solving in interaction with objects. Distancing between oneself and others and distancing between oneself and objects as critical components of the development of play are discussed later.

Distancing in levels of representation

Most children who are congenitally deaf-blind have some functional hearing or vision or both. Although Werner and Kaplan's (1964, 1988) theory primarily addresses the growth from vocalization and gesture to speech, it is necessary to look at distancing in representations across forms to address the full spectrum of learners who are congenitally deaf-blind. Communication must grow from representations on the child's body to representations that allow for a greater distance (in time and space) between the child and the object of representation. The earliest form and level of representation is motor reenactment (Anisfeld, 1984), which occurs when the child attempts to gain continuation of a preferred motor interaction by reenacting a motor movement. For example, the adult is tickling the child and the child wiggles in response. If the adult pauses, the child may continue wiggling, a reenactment of the movement. Little distancing occurs with reenactment, although the child may extend reenactments to become requests for continuation in the context of responsive adults (Wetherby, Reichle, & Pierce, 1998). Such requests reflect an understanding of the separateness of the addressee and the addressor. So, at the earliest level of representation, distancing between the addressee and the addressor is established through body language.

A slightly higher level of representation is achieved when children use objects in reenactments. The context is an enjoyable activity that incorporates not only the body, but the use of objects. When a pause occurs or the game has just ended, the child reenacts some part of the activity through the use of objects. This is not yet symbolic communication, but a small degree of distancing is achieved. For example, the child and teacher are coactively ringing a bell. The teacher turns to attend to another student, leaving the first child holding the bell. The child then rings the bell as a reenactment of the movement performed with the teacher.

Onomatopoeic expressions, physiognomic expressions, and gesture

Young children often produce sounds that reflect their experience of a thing. For example, they may produce self-imitative sounds, such as sucking as a self-imitation of sucking on a pacifier. These sounds, which bear a similarity to their experiences with an object, are called onomatopoeic expressions (Werner & Kaplan, 1964). Onomatopoeic expressions are signals that are produced vocally but without symbolic intent, such as imitating parents in specific activities. Children may also modulate the duration of a vocalization as a reflection of their perception of an object. For instance, they may produce longer sounds for larger objects (Werner & Kaplan, 1964), thus producing forms that are known as physiognomic because they share some type of physical characteristic with an object. Onomatopoeic and physiognomic expressions incorporate a small degree of distance between an object and its representation. Children's use of such expressions is dependent on having sufficient functional hearing to detect auditory characteristics.

Gestures allow children to refer to objects with increasing physical distance between themselves and the objects. Distancing is achieved as children move from gesturing through touch, known as contact gestures, to gesturing to things at a distance, known as distal gestures. Pushing objects away from oneself is an example of a contact gesture, and pointing is an example of a distal gesture. Vision supports the development of distal gestures, such as pointing, since children see objects or people of interest at a distance. An understanding of object permanence also is necessary to develop distal gestures. Temporal distancing is achieved through gestures as the child imitates the gestures of others at a later time. Repeated experiences in the same contexts will support the imitation of gestures (Stremel & Schutz, 1995).

Icons, indices, and symbols

Three levels of representation—icon, index, and symbol—were introduced by Charles Peirce in 1932 and expanded upon by Elizabeth Bates and Terrence Deacon (Bruner, 1990; Nelson & Shaw, 2002; Park, 1997). Icons share a resemblance with the object to be represented, such as a photograph of a ball. Whole and partial objects, pictures, and photographs can be highly iconic. Children must recognize the similarity between a representation and a referent to be able to use icons (Golinkoff & Hirsh-Pasek, 2000).

Along the continuum from concrete to abstract representations, index is the next level of abstraction. An index shares a relationship to the referent that is understood through experience. An index may even be part of an activity, such as using a shopping bag to stand for shopping or a dish towel to stand for washing dishes. It could also be an associated feature, such as smoke as a representation for fire.

Symbols are the third and most abstract level of representation. The relationship between symbols and referents is arbitrary, and the meaning of symbols is shared by other members of a culture (Nelson & Shaw, 2002). Greater distance is achieved through symbols because they extend the reference to experiences outside the present context. To use a symbol, children need to understand that the symbol may be substituted for the referent, but that the symbol and the referent are not the same thing (Wetherby et al., 1998). According to Deacon (1997, p. 66), however, "Learned association, arbitrarity, reference, and transmission of information from one individual to another are not sufficient to define symbolic reference." Furth (1996) concurred that symbols occur only when there is language, an ordered or rule-governed system of signs. So, symbols exist because there are other symbols to connect with in an ordered fashion. Nelson and Shaw (2002, p.

32) cited the developmental order of distancing in the use of words as being the use of words in reference (which are bound to the present context); the use of words as denotations (naming and defining); and the use of words "in sense," meaning the use of words in relation to other words. Deacon (1997, p. 8) described the qualitative difference between communication through indices and communication through symbols this way: "We are fairly well stuck in reality with indices; with symbols, thought takes wings."

Denaturalization and decontextualization

Denaturalization and *decontextualization* are two terms that were introduced by Werner and Kaplan (1964) to describe the distancing process. *Denaturalization* refers to the process of decreasing the similarities between the representation and the referent (Rowland & Stremel-Campbell, 1987). It occurs across forms of communication. For example, young children may invent natural gestures that mimic some part of the movement associated with an object. A child may use the motion of a turning doorknob, by using a clawed hand turning to the left and right, initially as a motor reenactment and later as a natural gesture as greater distancing develops. The shift from expressions invented by the child to socially shared expressions is part of the denaturalization process.

Decontextualization is the process by which a separation occurs between the addressor and the referent and the representation and the referent. Early communication is bound to the immediate and concrete experiences of the present. As greater distancing is achieved, children can communicate about a favorite toy that is no longer in the present environment and even about a toy that they may have played with earlier in the day. Hearing children learn new contexts for words because they hear the words used in varied contexts (Bloom, 1993). The expression of words in

different contexts for various communicative purposes facilitates decontextualization (Wilcox & Shannon, 1998). As decontextualization is achieved, children learn to communicate about something with increased temporal and spatial distance.

Distancing in representations for children who are deaf-blind

Vision allows children to easily recognize similarities between the representation and the referent. The visual observation of others engaging with objects supports the development of gestures on the basis of the observed motor movements (Stremel-Campbell & Matthews, 1988). Vision and hearing assist children in developing associations between objects and activities. Both vision and hearing support decontextualization because these senses support children's recognition of varied contexts. Therefore, children who are congenitally deaf-blind will need far more experiences than will sighted and hearing children in pairing the referent and its representation before they can understand the power of representation.

Excellent examples of support for motor reenactments can be viewed in Nelson and Van Dijk's (2002) CD-ROM on child-guided assessment. It may well be that natural or invented gestures that are used by children who are deaf-blind are parallel to onomatopoeic expression in hearing children. While such gestures may initially be motor reenactments, they are often extended to express a variety of communicative functions, thus moving from icon to index.

Van Dijk (1967) has consistently written about the greater importance of gestures, including the individual nature of gestures, in children who are deaf-blind. A child creates individual gestures on the basis of his or her motoric interactions with the environment (Writer, 1987). Rather than eagerly shaping

these natural gestures into formal signs, it is important for adults to respect a child's creation by incorporating the child's gestures into their expressive communication. For example, a child may enjoy moving a favorite toy back and forth across the wheelchair tray. When that object falls off the tray, the child engages in the same hand movement, a motor reenactment. The adult may also incorporate this gesture before he or she picks up the toy and replaces it on the tray.

Rowland and Schweigert's (2000b) research with tangible symbols illustrates the use of whole and partial objects as a concrete form of communication, both as object reenactments and as higher levels of representation. It is particularly encouraging to note that 23 of their 35 participants were able to learn new representations within three exposures to the representation (p. 73). Their research demonstrates the power of tangible representations (including those that are icons, indices, and symbols) as a bridge to more complex forms of communication. Practitioners and parents are referred to the *Tangible Symbol Systems* (Rowland & Schweigert, 2000a) videotape and accompanying booklet for strategies and case studies that are important for implementing tangible symbols.

Van Dijk's principle of characterization is implicit to a discussion on representations. The principle of characterization (also known as saliency) is that the representation that is chosen for the child, whether it is an object, gesture, or photograph, is based on what is most meaningful to the child (Silberman, Bruce, & Nelson, 2004). Adults must attend to how a child uses his or her senses and which aspects of objects the child most readily notices. In this way, representations are based on the child's individual perceptions of objects. Children who are visually impaired learn about objects through their tactile sense. Through touch, they gain information about one part of an object and then continue to explore through a parts-to-whole approach. Complete exploration

of an object will help a child to gain important perceptual information. Appropriate representations are based on the child's tactile experiences, rather than on the visual experiences of others. With increasing distance, many children will adopt the use of representations that are more commonly understood.

Distancing in early words and cues for recall

First words are not symbolic; their purpose is to reference something in the immediate and specific context (Nelson & Shaw, 2002; Wilcox & Shannon, 1998). Children take their experiences and create or imitate representations for their experiences, thus developing what Bloom (1993, p. 83) called a "word-image representation" that is stored in their memory. Therefore, first words are intimately tied to children's experiences with objects or persons. First words are recalled by repeating experiences (Wetherby et al., 1998), whereas when sufficient distancing is achieved, children are able to use words to recall other words. Eventually, after children have developed a more extensive vocabulary, a word itself becomes a cue to their recall of an experience.

Cues for recall become increasingly different from the initial experience with the named object (Bloom, 1993). All this is part of the process of distancing from the immediate temporal and concrete level of experience. Children's ability to make use of a range of cues is dependent on their conceptual understanding of objects and their ability to connect memories of experiences with current perceptual information. Thus, initially, children may have to see or touch a swing before they realize that an opportunity to swing exists. Later, they will recognize cues, such as the poles that suspend the swing, and even more abstract cues, such as being in a park. While communication is always bound to context, children gradually learn to refer to and converse about an object

or experience that is not part of their current context. Thus, they have achieved a distancing in cues for recall.

Children who are deaf-blind

The quality of a child's exploration will shape the child's perceptions of objects. These perceptions become the basis of what the child will recognize as cues to recall the object. Therefore, the object-exploration techniques that were discussed previously are crucial to a child's ability to use all senses efficiently to recognize cues for recall. Children who are congenitally deaf-blind will use cues that are unique, including touch and object cues. Difficulty often centers on selecting a cue or representation that is appropriate for the individual child and in recognizing that the selection of an appropriate cue will best support the development of memory, which is essential to the process of distancing.

Touch cues are provided on the child's body to support understanding of what is about to happen. These types of cues are particularly important to children who do not have enough functional vision to alert them to when others are likely to act upon them. Touch cues, such as slightly lifting a child under the arm and then pausing before completely lifting the child, provide a child who is deaf-blind with ample warning about what is about to occur. Touch cues should be consistently associated with the same actions to make the world more predictable to a child who is deaf-blind (Rowland, Schweigert, & Prickett, 1995). In this way, touch cues are cues to recall the actions of others.

Object cues fall along the continuum from concrete to abstract. Early object cues are usually part of a familiar activity (such as using a diaper to represent changing the child's diaper), whereas later object cues may be arbitrary, such as a piece of plastic for a favorite climbing apparatus. Little distance occurs between a

touch cue and its associated action. While early object cues are iconic, arbitrary object cues are symbolic and allow for greater distance between a child and the representation and between the representation and the referent. Note that the use of miniatures should be avoided. Although a miniature shares a strong visual perceptual relationship to the referent, it is extremely inappropriate to use with a child who is visually impaired because the detail of the miniature cannot be seen or touched. A meaningful association between a miniature and a larger referent can only be made if you can see both (Silberman, Bruce, & Nelson, 2004). Practitioners and parents will find *Hand in Hand: It Can Be Done* (Huebner, Joffee, Prickett, & Welch, 1995) to be helpful in planning and implementing touch and object cues, as well as in supporting young children to develop the skills of exploration and play, discussed next.

Distancing in play

Progressive distancing occurs as children engage in more complex play. Anisfeld (1984) discussed four levels of play. At Level 1, children act out experiences from their own lives, and at Level 2, they can take real-life events and apply them to others, such as feeding a stuffed animal or another person.

At Level 3, children substitute objects for other objects when they pretend that one object represents another, such as the use of a block to represent a person. Even within the substitution phase of play development, increased distancing occurs as children grow from substituting with objects that share perceptual features with the object to be represented to substituting objects that have little or no resemblance to the object. The final level is achieved when children can use objects as agents, such as a doll feeding itself. Symbolic play can occur only when children achieve sufficient distancing between themselves and others because they must be able to adopt more than one psychological orientation to a

situation. That is, children must be able to perceive the experiences of others to engage in symbolic play (Hobson, 1993), which, again, is part of the process of psychological distancing.

Children who are deaf-blind

The play of children who are deaf is similar to that of typical peers when the form of play does not require language, such as in the manipulation and construction of objects, although children who are deaf are usually delayed in symbolic play (Finn, Fewell, and Vadasy, 1988). Yoshinga-Itano, Snyder, and Day (1999) studied the play of 180 children, aged 8–30 months, using the Play Assessment Questionnaire. The strong correlations they found between the children's emergence of early language and specific symbolic play behaviors led them to conclude that play and language are "yoked in development in this population, just as they are in children with normal hearing" (p. 180).

Children who are blind have both delays and differences in their play when compared to sighted peers. Their delay in understanding object permanence results in delayed symbolic play. Children who are blind do not have the opportunity to observe the play of others visually; thus, they have fewer play schemes. Tr öster and Brambring (1994) analyzed a play questionnaire completed by parents of 91 German children who were blind and compared the results to those of 122 sighted children, with 48 matched to the sample of blind children. They found that the children who were blind engaged in more solitary play and were delayed in symbolic play.

Rogers and Puchalski's (1984) study found that the symbolic play of children with visual impairments incorporated fewer play schemes and fewer sequences of the use of symbols. Hughes (1998) noted that children who are blind may simply not know what is available to play with; when adults play with a child, both

the length of time engaged in play and the complexity of play improve. Haight and Miller (1992) found that early pretend play occurred only when initiated by the mothers, but with experience, the children with visual impairments increased their initiations. Children benefit from adults who model and support participation in a level of play that is just lightly above the child's current level of independent play (Bornstein & Tamis-LeMonda, 1995).

Children who are congenitally deaf-blind need additional supports to access models of play. Adults need to orient these children to the play options, reinforce attempts to play, and provide feedback (Rogers & Puchalski, 1984; Stilson & Harding, 1997). Adults' use of objects and gestures in the context of pretend play may actually facilitate the acquisition of symbolic skills in children who are deaf-blind (Pennington, Lloyd, & Wallis, 1991, p. 126.). Troster and Brambring (1994) also suggested that children who are blind may more easily recognize the symbolic value of objects that evoke action, rather than concentrating on the features of the object.

Research has found strong relationships among cognition, communication and language, and levels of play (Finn et al., 1988). For example, children with longer expressive messages engage in more complex play (Kennedy, Sheridan, Radlinski, & Beeghly, 1991). Finn and Fewell (1994) and Fewell and Rich (1987) found that assessment using the Play Assessment Scale was highly correlated (.87–.96 at the .001 alpha level) with results obtained when using the communication section of the Early Intervention Developmental Profile, the Wisconsin Behavior Rating Scale, and the Callier Azusa Scale (excluding the expressive communication section), Play Checklist, and Gestural Approach to Thought and Expression Scale (Finn & Fewell, 1994, pp. 350, 353). These strong correlations were found for both young and older children who were deaf-blind with various etiologies. Play is an important context for the assessment of

communication skills (Finn & Fewell, 1994), especially the level of symbolic expression, in children who are congenitally deaf-blind.

Conclusion

Distancing is a concept that originated in Werner and Kaplan's organismic-developmental theory. The concept was influenced by the experiences of people who are deaf-blind and, in turn, shaped research and practice in deaf-blindness. Distancing is an essential process to the development of symbolic thought and expression. Children's representations grow from body language to representations that are increasingly abstract and at a temporal and spatial distance from the referent. Adults can support children who are deaf-blind in the process of distancing by selecting forms of communication that are respectful of the children's understanding of distancing. Strategies, such as the hand-under-hand exploration of objects, the selection of cues for recall that are based on children's most salient perception of an object, and the provision of play models just above the children's current level of play are all important to the effort to support distancing, a process that is essential to the development of symbolic thought and expression.

References

Anisfeld, M. (1984). Development of the symbolic function. In M. Anisfeld (Ed.), *Language development from birth to three* (pp. 19–65). Hillsdale, NJ: Lawrence Erlbaum.

Bloom, L. (1993). The transition to language. In L. Bloom (Ed.), *The transition from infancy to language: Acquiring the power of expression* (pp. 79–109). New York: Cambridge University Press.

Bornstein, M., & Tamis-LeMonda, C. (1995). Parent-child symbolic play: Three theories in search of an effect. *Developmental Review, 15,* 382–400.

Bruner, J. (1990). *Acts of meaning.* Cambridge, MA: Harvard University Press.

Cocking, R., & Renninger, K. A. (1993). Psychological distance as a unifying theory of development. In R. Cocking & K. A. Renninger (Eds.), *The development and meaning of psychological distance*. Hillsdale, NJ: Lawrence Erlbaum.

Deacon , T. (1997). *The symbolic species: The co-evolution of language and the brain.* New York: W. W. Norton.

Fewell, R. R., & Rich, J. (1987). Play assessment as a procedure for examining cognitive, communication, and social skills in multi-handicapped children. *Journal of Psychoeducational Assessment, 2,* 107–118.

Finn, D. M., & Fewell, R. R. (1994). The use of play assessment to examine the development of communication skills in children who are deaf-blind. *Journal of Visual Impairment & Blindness, 88,* 349–356.

Finn, D., Fewell, R., & Vadasy, P. (1988). The play of young children who have dual sensory impairments. In M. Bullis & M. Fielding (Eds.), *Communication development in young children with deafblindness: Literature review* (pp. 149–163). Monmouth: Teaching Research Division, Oregon State System of Higher Education.

Friedman, C. T., & Chen, D. (1990). *Assessing interaction with objects: Parents and visually impaired infants.* Louisville, KY: American Printing House for the Blind.

Furth, H. (1996). Human mind in human society. *Human Development, 39,* 264–268.

Golinkoff, R. M., & Hirsh-Pasek, K. (2000). Word learning: Icon, index, or symbol? In R. M. Golinkoff, K. Hirsch-Pasek, L. Bloom, L. B. Smith, A. L. Woodward, N. Akhton, M. Tomasello, & G. Hollich, *Becoming a word learner: A debate on lexical acquisition*. New York: Oxford University Press.

Haight, W., & Miller, P. (1992). The development of everyday pretend play: A longitudinal study of mothers' participation. *Merrill-Palmer Quarterly, 38,* 331–349.

Hobson, P. (1993). Through feeling and sign to self and symbol. In U. Neisser (Ed.), *The perceived self: Ecological and interpersonal sources of self-knowledge* (pp. 254–279). New York: Cambridge University Press.

Huebner, K. M., Joffee, E., Prickett, J. G., & Welch, T. R. (Eds.). (1995). *Hand in hand: It can be done.* New York: AFB Press.

Hughes, F. (1998). Play in special populations. In O. Saracho & B. Spodek (Eds.), *Multiple perspectives on play in early childhood education* (pp. 171–193). Albany: State University of New York Press.

Kennedy, M., Sheridan, M., Radlinski, S., & Beeghly, M. (1991). Play-language relationships in young children with developmental delays: Implications for assessment. *Journal of Speech and Hearing Research, 34,* 112–122.

MacFarland, S. Z. C. (1995). Teaching strategies of the Van Dijk curricular approach. *Journal of Visual Impairment & Blindness, 89,* 222–228.

McInnes, J. M., & Treffry, J. A. (1982). *Deaf-blind infants and children: A developmental guide.* Toronto: University of Toronto Press.

Miles, B. (1998). *Talking the language of the hands to the hands: The importance of hands for the person who is deaf-blind.* National Clearinghouse on Children Who Are Deaf-Blind [Online]. Available: http://www.tr.wou.edu/dblink/hands2.htm

Miles, B., & Riggio, M. (1999). *Remarkable conversations: A guide to developing meaningful communication with children and young adults who are deafblind.* Watertown, MA: Perkins School for the Blind.

Muller, U., & Runions, K. (2003). The origins of understanding self and other: James Mark Baldwin's theory. *Developmental Review, 23*(1), 29–54.

Nelson, C., & Van Dijk, J. (2002). *Child-guided strategies for assessing children who are deaf-blind or have multiple disabilities* [CD-ROM]. The Netherlands: Aap Noot Muis.

Nelson, K., & Shaw, L. (2002). Developing a socially shared symbolic system. In E. Amsel & J. Byrnes (Eds.), *Language, literacy, and cognitive development: The development and consequences of symbolic communication* (pp. 27–58). Hillsdale, NJ: Lawrence Erlbaum.

Park, K. (1997). How do objects become objects of reference: A review of the literature on objects of reference and a proposed model for the use of objects in communication. *British Journal of Special Education, 24,* 108–114.

Pennington, G., Lloyd, L., & Wallis, J. (1991). Augmentative and alternative communication: The preschool child with severe

disabilities. In E. Cipani (Ed.), *A guide to developing language competence in preschool children with severe and moderate handicaps* (pp. 111–161). Springfield, IL: Charles C Thomas.

Preisler, G. M. (1995). The development of communication in blind and in deaf infants—similarities and differences. *Child: Care, Health and Development, 21,* 79–110.

Rogers, S., & Puchalski, C. (1984). Development of symbolic play in visually impaired young children. *Topics in Early Childhood Special Education, 3*(4), 57–63.

Rowland, C., & Schweigert, P. (2000a). *Tangible symbol systems* (2nd ed.). Portland: Oregon Health Sciences University.

Rowland, C., & Schweigert, P. (2000b). Tangible symbols, tangible outcomes. *Augmentative and Alternative Communication, 16,* 61–78.

Rowland, C., Schweigert, P., & Prickett, J. (1995). Communication systems, devices, and modes. In K. M. Huebner, E. Joffee, J. G. Prickett, & T. R. Welch (Eds.), *Hand in hand: It can be done* (Vol. 1, pp. 219–259). New York: AFB Press.

Rowland, C., & Stremel-Campbell, K. (1987). Share and share alike: Conventional gestures to emergent language for learners with sensory impairments. In L. Goetz, D. Guess, and K. Stremel-Campbell (Eds.), *Innovative program design for individuals with dual sensory impairments* (pp. 49–75). Baltimore, MD: Paul H. Brookes.

Siegel-Causey, E., & Downing, J. (1987). Nonsymbolic communication development: Theoretical concepts and educational strategies. In L. Goetz, D. Guess, & K. Stremel-

Campbell (Eds.), *Innovative program design for individuals with dual sensory impairments* (pp. 15–48). Baltimore, MD: Paul H. Brookes.

Silberman, R., Bruce, S., & Nelson, C. (2004). Children with sensory impairments. In F. Orelove, D. Sobsey, & R. Silberman (Eds.), *Educating children with multiple disabilities: A collaborative approach* (pp. 425–528). Baltimore, MD: Paul H. Brookes.

Slade, A. (1987). Quality of attachment and early symbolic play. *Developmental Psychology*, *23*(1), 78–85.

Stillman, R. D., & Battle, C. W. (1984). Developing prelanguage communication in the severely handicapped. An interpretation of the Van Dijk method. *Seminars in Speech and Language, 4,* 159–170.

Stilson, S., & Harding, C. (1997). Early social context as it relates to symbolic play: A longitudinal investigation. *Merrill Palmer Quarterly*, *43,* 682–693.

Stremel, K., & Schutz, R. (1995). Functional communication in inclusive settings for students who are deaf-blind. In N. Haring & L. Romer (Eds.), *Welcoming students who are deaf-blind into typical classrooms: Facilitating school participation, learning, and friendships* (pp. 197–229). Baltimore, MD: Paul H. Brookes.

Stremel-Campbell, K., & Matthews, J. (1988). Development of emergent language. In M. Bullis & G. Field (Eds.), *Communication development in young children with deaf-blindness: Literature Review* (pp. 165–201). Monmouth, OR: Teaching Research Division, Communication Skills Center for Young Children with Deaf-Blindness.

Tröster, H., & Brambring, M. (1994). The play behavior and play materials of blind and sighted infants and preschoolers. *Journal of Visual Impairment & Blindness, 88,* 421–432.

Van Dijk, J. (1965). *The first steps of the deaf-blind child towards language: Proceedings of the Conference on the Deaf-Blind, Refsnes, Denmark.* Watertown, MA: Perkins School for the Blind.

Van Dijk, J. (1967). *The non-verbal deaf-blind and his world: His outgrowth toward the world of symbols: Proceedings of the Jaasrverslag Instituut Voor Doven, 1964–1967* (pp. 73–100). St. Michielsgestel, the Netherlands: Instituut Voor Doven.

Werner, H., & Kaplan, B. (1964). *Symbol formation: An organismic-developmental approach to language and expression of thought.* London: John Wiley & Sons.

Werner, H., & Kaplan, B. (1988). On developmental changes in the symbolic process. In M. Franklin & S. Barten (Eds.), *Child language: A reader* (pp. 7–9). New York: Oxford University Press.

Wetherby, A., Reichle, J., & Pierce, P. (1998). The transition to symbolic communication. In A. Wetherby, S. Warren, & J. Reichle (Eds.), *Transitions in prelinguistic communication* (Vol. 7, pp. 82–83, 155–156, 171–191). Baltimore, MD: Paul H. Brookes.

Wilcox, M., & Shannon, M. (1998). Facilitating the transition from prelinguistic to linguistic communication. In A. Wetherby, S. Warren, & J. Reichle (Eds.), *Transitions in prelinguistic communication* (Vol. 7, pp. 1385–1416). Baltimore, MD: Paul H. Brookes.

Writer, J. (1987). A movement-based approach to the education of students who are sensory impaired/multihandicapped. In L. Goetz, D. Guess, & K. Stremel-Campbell (Eds.), *Innovative program design for individuals with dual sensory impairments* (pp. 191–222). Baltimore, MD: Paul H. Brookes.

Yoshinga-Itano, C., Snyder, L., & Day, D. (1999). The relationship of language and symbolic play in children with hearing loss. *Volta Review, 100,* 135–164.

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