



# Texas School for the Blind & Visually Impaired

## Outreach Programs

[www.tsbvi.edu](http://www.tsbvi.edu) | 512-454-8631 | 1100 W. 45<sup>th</sup> St. | Austin, TX 78756

## Supporting High Quality Interactions with Students Who Are Deafblind

*By Craig Axelrod, Teacher Trainer, TSBVI, Texas Deafblind Outreach*

This article was originally published in two parts for the 2005 Winter and Spring editions of the SeeHear Newsletter.

**Abstract:** Educators can have more positive, responsive and reciprocal interactions with their students who are deafblind by learning how to modify their own interactive behaviors and adapt the interactive context. High quality interactions contribute to improved educational outcomes for students with deafblindness.

**Key Words:** programming, blind, deafblind, Jan van Dijk, research-based, interaction, behavior, communication, educator-oriented intervention, instructional strategies, video analysis

Interaction is defined here as the process by which two individuals mutually influence each other's behavior." (Janssen, Riksen-Walraven & van Dijk, 2003b, p.198). During a visit to Texas School for the Blind and Visually Impaired (TSBVI), Dr. Jan van Dijk suggested that a team from the school review recent research about interactions with students who are deafblind, then develop a process for sharing the information with other educators and helping them put its principles into practice. Part One of this two-part article summarizes research-based conclusions about interactions with students who are deafblind. Part Two, which appears in the Winter 2005 edition of SEE/HEAR, describes the educator-oriented training process developed at TSBVI that incorporates these findings.

### Interaction Problems and Possibilities

Many in the field of deafblindness intuitively value and try to maintain high quality interactions with students who are deafblind. As research continues to validate the role of interaction in attachment, security, relationships, learning and communication, the need for educators of students with deafblindness to develop their interaction skills becomes more apparent. Appreciating the importance of positive interactions is a step in the process. Improving the quality of one's own interactions with students who are deafblind is a bigger challenge.

### Typical development

"It is a universal trait of our species that mothers have the innate skill of mothering. They are able (and it seems that this is similar in all cultures) to provide the newborn child with warmth and security. Mothers feel that the newborn child needs a safe harbor for exploration." (van Dijk, 1999, p.1). "Children who are securely attached to their caregivers have a secure base from which to explore the environment.... Children see individuals to whom they are securely

attached as available and responsive.... Secure attachments are built when caregivers are sensitive and responsive to the infant's communications...Positive interactions occur as the caregiver and the infant respond to each other...The infant sends cues, the caregiver responds, and the infant responds in turn. Each partner learns the rules of turn-taking from the feedback of the dyadic partner." (van Dijk & Nelson, 2001, p. 18). "Given that interaction is the 'vehicle of communication,' it is obvious that harmonious (smooth, balanced and finely attuned) interactions are indispensable to develop high-quality communication." (Janssen, et al., 2003b, p. 198)."

Harmonious interactions and their importance have been characterized in various terms. Attachment theorists emphasize the importance of sensitive responsiveness: A sensitive caregiver is keenly aware of a child's signals, interprets them accurately, and reacts promptly and appropriately so that the child feels understood. During such harmonious interactions, the child learns to trust the caregiver's availability as a source of emotional comfort and support." (Janssen, et al., 2003b, p.198). Dr. van Dijk has referred to this quality of sensitive responsiveness as "IT." This is how he once described IT. "I have been looking all over the place to find a CD-rom fragment of Suzanne with her mother interacting. Mother wants her to clap her hands, but S. wants her to touch her lips. Mother adjusts her intention to S.'s request. This is IT." (personal communication, October 18, 2002).

"Harmonious caregiver-child interactions have been found to relate to later socioemotional development in various empirical studies.... a secure infant-parent attachment relationship - which clearly relates to sensitive parenting - predicts various developmental outcomes for children up to late adolescence.... early harmonious interactions influence the development of brain structures and brain functions that mediate the future regulation of emotions, adaptation to changing circumstances, and ability to cope with stress.... Particularly, the sharing of high levels of positive affect during interactions appears to have beneficial effects on early brain development." (Janssen, et al., 2003b, pp. 199-200).

## **The impact of deafblindness**

"Children who are deafblind often require considerable time as they establish relationships with others and become comfortable in new environments.... The ability of children with severe multiple disabilities to develop secure attachment and turn-taking social interactions may be threatened by multiple factors including: (a) time spent in intensive care units separated from their parents, (b) severe health problems which may have limited physical contact with caregivers, (c) low levels of arousal and an alert state that is not long enough for attachment to occur, (d) extremely elevated levels of arousal that lead to over-stimulation, (e) communicative cues that are atypical and difficult to read, and (f) limited ability to read caregiver cues (e.g., if vision is limited, the young child may not be able to imitate the social cues of his caregiver such as a smile and he may not know when he should take his turn in a social interaction)." (van Dijk & Nelson, 2001, pp. 4, 18-19).

## **Interactive challenges**

"Various studies have indeed shown both deafblind children and their parents to encounter serious difficulties with their interactions. The visual impairments of the children greatly affect quality of the children's interactions with their parents. Eye contact, reading facial expressions, or mutually gazing at the same object are virtually impossible. Lack of responsiveness or over-

sensitive reactions such as 'slipping away' in the children may cause feelings of disappointment or frustration in the parents.... Auditory stimuli are not well-perceived or processed by deafblind children due to sensory-neural impairment. They may respond very little, not at all, or even negatively to voices and other sounds. Caregivers are therefore dependent on touch and proprioceptive stimulation to keep the interaction going.... Rowland (1984) showed the mothers of multiple handicapped visually impaired children to encounter difficulties with the regulation of turn-taking and to inconsistently respond to the vocalizations of the child...."

Preisler (1996) found deafblind children to elicit contact with their parents by means of body movements, facial expressions, and vocalizations. The children can also take part in joyful interactions, mostly in the form of body games. It is nevertheless difficult to read signals of deafblind children. Their movements and expressions are often very subtle or vague and unfold at a much slower pace when compared to those of sighted and hearing children. Use of idiosyncratic signals and forms of communication by the deafblind can easily lead to misunderstandings." (Janssen, Riksen-Walraven & van Dijk, 2002, pp. 88-89). "The attachment process described by Bowlby (1969), through which the child develops a secure bonding with his primary caregiver allowing him/her to explore and access new opportunities for experience and learning, is endangered in children with multiple disabilities due to the described difficulties in establishing readable signaling systems." (Amaral, 2003, p. 4).

"For educators, the first hampering factor in building harmonious interactions is the lack of natural skills to participate in the deaf-blind world of touch and proximity.... In her study of the communicative interactions between children with multiple disabilities and their teachers, Amaral (2002) concluded that teachers do not spontaneously develop the interaction and communication skills that are necessary for responding to the needs of such children.... The educators of deaf-blind children are often not fully aware of the importance of developing harmonious interactions before they focus on understanding the children's message or on further developing communication and language." (Janssen, et al., 2003b, pp. 198, 201). "When the educator of deafblind individuals lacks the insight and skills to understand the world of the deafblind child, one can observe how the individual retreats into himself, avoids touching objects, and attempts to cope with his 'unbalanced organism' by exhibiting stereotypic behaviours."(van Dijk, 1999, p. 2). "Professional educators, such as teachers, classroom-assistants, and the residential staff face the same interaction problems as the parents and sometimes even more serious problems. The educators typically start interacting with the deafblind children at a later age than the parents, which means that many of the children have already developed a number of idiosyncratic and 'difficult' behaviors that can hamper further interaction." (Janssen et al., 2002, p. 89). "The final factor that is known to hamper harmonious interactions with deaf-blind children holds particularly in institutional settings (schools and residential facilities) and concerns continuous changes. While professional educators regularly rotate from one class, home setting, or group in a residential facility to the next and thus from one deaf-blind child to another, the risk of disharmonious interactions increases with each switch, particularly when the professionals have not been sufficiently introduced in the new work setting and too many staff changes occur at the same time." (Janssen, et al., 2003b, p. 202). "It is obvious that when a child, whose emotional balance is easily disturbed, is provided with many different caregivers, it is hard, if not impossible, for the foundation of security to be laid."(van Dijk, 1999, p. 3). "Given that the principles of individuals' communication and interaction are

often not well recorded, the risk of disharmonious interactions following such staff switches increases." (Janssen, et al., 2003b, p. 202).

## **Adult-dominated interactions**

Rick van Dijk and his colleagues noted, "In normal language development, one would expect a parent or a professional teacher to leave the initiative in communication to the child and to respond in a contingent way whenever the parent or teacher felt that it was possible for the child to take the initiative. Only in this manner does the child have the opportunity to explore his or her communicative possibilities...Communication will only lead to language development if the child is enabled to actively take part in communication.... we know that parents often have a tendency to control interaction with a deaf child because they cannot fully understand the utterances of the child. Although understandable, this control is in itself detrimental to language development. The more parents try to control the responses of a child, the turn-taking interaction, and especially the topic of conversation, the more slowly language development will proceed. There is solid empirical evidence that use of a less controlling interaction style by parents facilitates not only higher-quality interaction between parents and deaf children but also the process of language development.... there is no reason to think that this is not also the case in children who are deafblind." They suggested that "...if one studies interaction and communication, and most certainly if one studies these processes in relation to the facilitation of language development, one will also want to study aspects such as initiation of interaction, contingent and noncontingent reactions of communication partners, and the functions of interactive turns." (Vervloed, van Dijk, R., Knoors & van Dijk, J., 2006, pp. 337, 343).

A study was designed to analyze the interactions between a teacher and his 3-year-old student with congenital deafblindness. The primary research question asked, "...to what extent it would be possible for the teacher to attend to the deafblind child's initiatives and responses and respond appropriately, with contingent interaction patterns thereby resulting.... Three target activities that offered many opportunities for close interaction were chosen for the present study.... These events were selected because they recurred daily and fit in the schedule of daily routines for this boy. It is widely accepted that such daily routines foster effective interactions and enhance memory processes." Videotaping the observations was considered necessary "...because otherwise it is extremely difficult to notice all the potential communicative signals exhibited by the deafblind child." (Vervloed, et al., 2006, pp. 337, 338).

"Over a period of 4 months, a total of 16 hours of recordings were made during bathing, dressing, and playing....specific events were chosen for video recording in order to capture the most favorable conditions for the elicitation of social interaction and communication.... Three criteria were used to determine if a scene would be included in the study: 1. Both the teacher and the child should be within reach of the camera. 2. The recordings should be of good quality...3. There should be a period of communicative activity lasting at least several seconds." Of the original recordings, "...less than 2% of the recording time contained prolonged interactions between teacher and child.... most of the failures were due to the teacher being too far away from the child to be able to communicate properly or due to the total absence of prolonged communication periods between the two." (Vervloed, et al., 2006, pp. 338, 340). Video fragments that met the criteria were reviewed, and each of the teacher's and student's interactive behaviors were assigned to one of six main observational categories:

1. The child acts to influence the teacher's behavior
2. The child reacts to the teacher
3. The child's actions are not in response to the teacher's initiatives, or there is no response
4. The teacher acts to influence the child's behavior
5. The teacher reacts to the child
6. The teacher's actions are not in response to the child's initiatives, or there is no response. (Vervloed, et al., 2006, p. 339).

The authors then counted the frequency of these interactive behaviors and analyzed the transitions between them, to learn more about the teacher and child's current interactions, and to predict the nature of their future interactions. If interactive behaviors of the teacher and/or child didn't change, it was likely, with varying degrees of probability, that the characteristics of their interactions would remain the same. They concluded, "The amount of interaction was representative of normal daily interactions between this teacher and deafblind boy.... only a limited portion of the time when the teacher and deafblind child were together was devoted to communication and interaction.... There existed a true interaction between teacher and child, although each frequently missed the initiatives of the other.... Both teacher and child did not respond significantly to each other's responses.... the number of teacher initiatives exceeds the number of responses considerably." They also speculated "...that interaction between the partners stopped after one response." From this study, the authors determined that "...it is possible to quantify interaction between teachers and deafblind children and that this can be accomplished in a way that gives insight into the elements of the interaction and communication processes that are important for the development of language." (Vervloed, et al., 2006, pp. 341, 342).

### **Consequences of disharmonious interactions**

"It is likely that the emotional and behavioral problems of deafblind children are at least partially due to the difficulties they experience, from birth on, in their everyday interactions with caregivers. High quality interactions with primary caregivers who sensitively respond to normal children's signals and needs have been found to foster a sense of security and competence in the children and to positively affect both their social and personality development in later years. In contrast, children with insecure attachment relationships reflecting a history of disharmonious interactions with their primary caregivers have been found to be at risk for development of disorders such as problems in self-regulation, depression, and conduct disorders.... Given that the interactive signals of deafblind children are often subtle and difficult to interpret, they are frequently missed or misunderstood by caregivers. As a result, children tend to intensify their signals, express frustration via self-abuse or aggressive behaviors or both, and withdraw into stereotypic behaviors or passivity. Such 'inappropriate' behaviors can then elicit inadequate responses from the caregivers, with the risk of both the caregiver and child getting caught in a downward spiral." (Janssen, et al., 2002, pp. 88, 90).

### **Educator-oriented intervention**

Dr. Marleen Janssen and her co-authors designed an educator-oriented intervention program to improve the quality of interactions between deafblind children and their professional educators.

To determine the program's effectiveness, their research questions were, "(1) Does the intervention produce an increase of appropriate [educator] responses and a decrease of inappropriate [educator] responses to the interactive behaviors of the children? (2) Does the intervention result in an increase of appropriate interactive behaviors and a decrease of inappropriate interactive behaviors on the part of the children? (3) Is the intervention effective with different educators and in different situations?" (Janssen, et al., 2002, p. 90).

After identifying appropriate and inappropriate child behaviors, and appropriate and inappropriate educator responses, "First, the educators were trained to respond more appropriately to the children's interactive behaviors. Second, the educators were trained to adapt the interactive context to facilitate the occurrence of appropriate interactive child behaviors. Such adaptations were as follows: (1) offering communicative aids [in an] orderly [way], (2) offering choices, (3) removal of distracting stimuli, (4) removal of stimuli not wanted by the child, (5) attuning activities to child's abilities (sensory or motor), and (6) demonstration of appropriate interactive behaviors to the child." (Janssen, et al., 2002, p. 94).

The study concluded that "...it is possible to improve the interactive competence of deafblind children by teaching their educators to respond more appropriately to [the children's] interactive behaviors. In three of the four target children, both an increase in appropriate interactive behaviors and a decrease in inappropriate interactive behaviors were observed. The intervention also proved to be effective for different educators across various situations." (Janssen, et al., 2002, p. 104).

## **Development of an intervention model**

As a continuation of their earlier work, Dr. Janssen and her colleagues developed "...a diagnostic intervention model as a guide for designing and conducting interventions to foster harmonious interactions between deaf-blind children and their educators in various settings...The intervention is educator oriented and thus aimed at achieving the goals of intervention for the children who are deaf-blind by changing the behaviors of their educators." (Janssen, et al., 2003b, pp. 197, 208).

In this model, the behaviors of both the child and educator are assigned to one of eight core categories of interactive behavior. "The definitions of the categories are adapted for the purposes of an intervention and are translated into concrete behaviors per individual case." (Janssen, et al., 2003b, p. 207). The eight core categories of behavior "...are as follows:

1. Initiatives: starting an interaction or raising something new as part of a reaction
2. Confirmation: clear acknowledgement that an initiative has been noticed and recognized
3. Answers: positive (approving) or negative (disapproving) reaction to an utterance of the partner
4. Turns: turn taking, or becoming the actor, and turn giving, or allowing the other to become the actor
5. Attention: focus on the interaction partner, the content of the interaction, and the people and/or objects within the interaction context
6. Regulation of intensity of the interaction. For the educator: waiting while the deaf-blind child regulates the intensity of the interaction. For the child: appropriate regulation of



intensity by, for example, withdrawing (turning his or her head away) or some other individual signal (such as laying his or her hand on the partner's hand) and apparent processing of information, and inappropriate regulation of intensity by, for example, self-abusive or aggressive behaviors

7. Affective involvement: mutual sharing of emotions
8. Independent acting. For the educator: acting with no focus on the child. For the child: executing actions independently (e.g., putting a garment or part of a garment on alone)." (Janssen, et al., 2003b, p. 207)."

On the basis of video analyses, the educators learn to recognize a deaf-blind child's signals, to attune their own interactive behaviors to those of the child, and to adapt the interactive context to promote the occurrence of certain target behaviors.... The intervention is evaluated in terms of the intervention aims and the occurrence of particular behaviors before and after intervention." (Janssen, et al., 2003b, p. 208). A companion study summarizes the successful implementation of the intervention model described above, with six congenitally deafblind children and adolescents, and their teachers, caregivers and parents, in different settings and interactional situations. (Janssen, Riksen-Walraven & van Dijk, 2003a).

## **The Interaction Training Process at TSBVI**

When determining who will be invited to participate in interaction training, we consider interested staff who are teaching students with deafblindness and understand the basics of good programming, such as structuring a routine and using a calendar system. They have interactive challenges with their students that we want to address. Staff may also be teaching newer students we want to better understand. The students represent a variety of abilities and needs.

### **Introduction to the training model:**

The educator-oriented learning goals of interaction training are to:

- Understand the role of high quality interactions in early development
- Understand the challenges to high quality interactions with children who are deafblind
- Identify student-specific factors that impact interactions
- Recognize the components of interaction
- Analyze the interactions between adults and students who are deafblind
- Identify and implement intervention strategies that improve the quality of those interactions

Several weeks before interaction training, participants are asked to notice and think about the interactions they have with their students, then bring those observations and questions to the first day of training. As the training progresses, and more is understood about the unique characteristics of deafblind children, interactions with deafblind children in general, and with their students in particular, concerns, goals and possible intervention strategies for improving the quality of those interactions become more refined and specific.

On the first morning of training, after introductions and clarification of the learning goals, information is presented about interaction problems and possibilities of students who are

deafblind (as described in Part One). To help exemplify these ideas, participants view and discuss the videotaped interactions between a student and three adults. The three interactions are clearly very different, and the student's abilities also seem to differ. An Interaction Data form is introduced as a tool to help graphically represent those differences.

## Interaction data

The Interaction Data form codes these components of an interaction:

**Description of Turns:** Each interactive turn is briefly described. This enables the people coding to quickly match information seen on the video to its corresponding location on the Interaction Data form.

**Interactive Turns:** Each turn is assigned a letter, A-F, based on the six observational categories identified by Rick van Dijk and his colleagues.

- A. **Student Initiates:** the student's action is directed at the adult in order to influence the adult's behavior
- B. **Student Responds:** the student responds to the adult
- C. **Student Acts Independently or No Response:** the student acts without an intent to influence the adult's behavior, or does not respond to the adult
- D. **Adult Initiates:** the adult's action is directed at the student in order to influence the student's behavior
- E. **Adult Responds:** the adult responds to the student
- F. **Adult Acts Independently or No Response:** the adult acts without an intent to influence the student's behavior, or does not respond to the student

**Connecting Consecutive Turns:** Arrows are drawn between "related" consecutive turns, reflecting the duration of an interaction on a particular topic.

**Interactive Behaviors:** Each turn of the student or adult is then assigned one or more numbers, 1-8, corresponding to behaviors that describe the turn's interactive qualities. These interactive behaviors are adapted from the eight core categories of behavior as defined by Marleen Janssen and her colleagues.

- 1. **Initiatives:** starting an interaction or bringing up something new as part of an answer
- 2. **Confirmation:** clear acknowledgement that a partner's action has been noticed and recognized
- 3. **Answers:** a positive or negative response to the partner
- 4. **Turn Taking:** becoming the actor
- 5. **Turn Giving:** allowing or encouraging the partner to become the actor
- 6. **Attention:** focusing on the partner, the content of the interaction, or the individuals and/or objects within the interactive context
- 7. **Regulation of Intensity of the Interaction:** for the student – appropriate or inappropriate interaction; for the educator – waiting while the student regulates intensity, or regulating behaviors that influence the student's intensity (such as proximity to the



student [e.g., nearer, further away], pacing [e.g., faster, slower], animation [e.g., facial expression, size of movement], voice [e.g., inflection, volume] and amount or type of touch [e.g., frequency, degree of forcefulness])

8. **Affective Involvement:** sharing positive emotions with the partner

(If during an interactive turn, the student or adult "acts independently or gives "no response," C or F, no interactive behaviors are credited.)

## Interaction Data Form

Interaction Data												
Student's Name:						Date:						
Adult's Name:						Topic:						
Interactive Turns:	A – Student Initiates		B – Student Responds		C- Student Acts Independently / NR		D – Adult Initiates		E – Adult Responds		F – Adult Acts Independently / NR	
Interactive Behaviors:		1 – Initiatives		2 – Confirmation		3 – Answers		4 – Turn Taking				
5 – Turn Giving		6 – Attention		7 – Regulating Intensity				8 – Affective Involvement				
Connect "related" consecutive turns with arrows												
Description of Turns												
Interactive Turns												
Adult's Interactive Behaviors												
Student's Interactive Behaviors												

B is 19 years old and has microcephaly secondary to an encephalocele (a congenital protrusion of the brain through a cranial fissure). He's legally blind with a cortical visual impairment, is suspected of having a hearing loss, and has multiple disabilities that include mental retardation and cerebral palsy.

Coded video fragments from B's three interactions are analyzed, to identify and compare components of the interactions that reflect their different characteristics and result in his varying degrees of interactive competence. This activity also familiarizes participants with the Interaction Data form. Later in the training, they will use the form to code and analyze video fragments of their own interactions.

Interaction Data							
Student's Name: B					Date: 5/02		
Adult's Name: Teacher					Topic: Physical Therapy		
Interactive Turns:	A – Student Initiates	B – Student Responds	C- Student Acts Independently / NR	D – Adult Initiates	E – Adult Responds	F – Adult Acts Independently / NR	
Interactive Behaviors:	1 – Initiatives		2 – Confirmation		3 – Answers		4 – Turn Taking
5 – Turn Giving		6 – Attention		7 – Regulating Intensity		8 – Affective Involvement	
Connect “related” consecutive turns with arrows							
Description of Turns	T unbuckles seatbelt	T takes towel	T says “Let’s get out of the chair,” etc.	T stretches B’s arm	T says “There you go.”	T stretches B’s fingers	T picks up B to reposition
Interactive Turns	F	F	D	F	D	F	F
Adult’s Interactive Behaviors	---	---	1	---	2	---	---
Student’s Interactive Behaviors							

B and the teacher - stretching on the therapy ball: The teacher talks to B twice in this fragment, but acts independently during the other turns. He prepares to move B, positions him on the therapy ball and stretches parts of his body with no interactive behaviors, no expectation for B to take a turn and no connected turns.

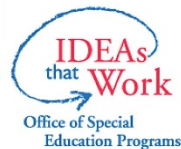
Interaction Data							
Student's Name: B				Date: 5/02			
Adult's Name: Aide				Topic: Eating			
Interactive Turns:	A – Student Initiates	B – Student Responds	C- Student Acts Independently / NR	D – Adult Initiates	E – Adult Responds	F – Adult Acts Independently / NR	
<b>Interactive Behaviors:</b>	1 – Initiatives	2 – Confirmation	3 – Answers	4 – Turn Taking			
5 – Turn Giving	6 – Attention	7 – Regulating Intensity		8 – Affective Involvement			
Connect “related” consecutive turns with arrows							
Description of Turns	Aide waits, then offers spoon	B takes a bite	Aide wipes B's mouth	B chews and swallows	Aide offers spoon	B refuses bite	Aide puts down spoon and gets milk cup
Interactive Turns	D →	B	F	C	D →	B →	E
Adult's Interactive Behaviors	1, 4, 6, 7		---		1, 4, 6, 7		2, 4, 6
Student's Interactive Behaviors		3, 4, 6		---		3, 4, 6	

B and the teacher aide - eating lunch: The aide is attentive to B, and waits until he's ready before offering a bite of food. B responds once by accepting the spoon (answering "Yes") and once by rejecting it (answering "No"). When he refuses the food, she confirms his response by putting down the spoon and getting the milk cup. Turns in both of these sequences are connected. She acts independently by wiping his mouth. There is no observed enjoyment (affective involvement) of the interaction.

## References

- Amaral, I. (2003). Analyzing teacher/child interactions: What makes communication successful? Paper presented at the Communication is the Key to Opening Doors Worldwide XIII Dbl World Conference. Mississauga, Canada.
- Janssen, M.J., Riksen-Walraven, J.M., & van Dijk, J.P.M. (2002). Enhancing the quality of interaction between deafblind children and their educators. *Journal of Developmental and Physical Disabilities*, 14, 87-109.

- Janssen, M.J., Riksen-Walraven, J.M., & van Dijk, J.P.M. (2003a). Contact: Effects of an intervention program to foster harmonious interaction between deaf-blind children and their educators. *Journal of Visual Impairment & Blindness*, 97, 215-228.
- Janssen, M.J., Riksen-Walraven, J.M., & van Dijk, J.P.M. (2003b). Toward a diagnostic intervention model for fostering harmonious interactions between deaf-blind children and their educators. *Journal of Visual Impairment & Blindness*, 97, 197-214.
- van Dijk, J. (1999). Development through relationships: Entering the social world. *Proceedings of the Developing Through Relationships XII Dbl World Conference*. Estoril, Portugal: Casa Pia de Lisboa.
- van Dijk, J., & Nelson, C. (2001). Child-guided strategies for assessing children who are deafblind or have multiple disabilities. Sint-Michielsgestel, the Netherlands: IvD/MTW, AapNootMuis.
- Vervloed, M.P.J., van Dijk, R.J.M., Knoors, H., & van Dijk, J.P.M. (2006). Interaction between the teacher and the congenitally deafblind child. *American Annals of the Deaf*, 151, 336-344.



This project is supported by the U.S. Department of Education, Special Education Program (OSEP). Opinions expressed here are the authors and do not necessarily represent the position of the Department of Education.