

Successful Adaptations for Learning to Use Touch Effectively

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Description

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Project SALUTE addresses the unique learning needs of children who are deaf-blind, who have severe visual impairments, and require a primarily tactile mode of learning. The majority of existing materials address accommodations to facilitate a child's use of available vision or hearing. Little information exists on ways to interact effectively through touch with children who are unable to access information through either of these sensory modes. Although some materials describe and recommend the use of tactile learning strategies (e.g., touch cues, tangible symbols, tactile signs, hand-over-hand guidance); there are few guidelines for implementing and evaluating these strategies with individual children who are deaf-blind and who do not use symbolic communication.

Goals

- ▶ To identify, develop, document, and validate tactile learning strategies for children who are deaf-blind and who do not use symbolic communication.
- ▶ To develop guidelines that assist in: (a) determining which learning strategy will be most useful, (b) identifying how or when each of these strategies should be used, and (c) evaluating the effectiveness of these learning strategies for an individual child.
- ▶ To produce materials to assist service providers and family members to interact more effectively with children who are deaf-blind.

Activities

- 1** Facilitate a National Advisory and Development Committee who are experts in the field. Members include family and program representatives and collaborators from the state technical assistance projects in California, Indiana, Minnesota, and Texas and from the national technical assistance project NTAC.
- 2** Convene focus groups (family members and service providers from a variety of disciplines) in California.
- 3** Conduct a thorough review of relevant literature.
- 4** Conduct observations of children who are deaf-blind in home and school activities.
- 5** Develop and field test methods and strategies to enhance tactile learning in at least four children who are deaf-blind.
- 6** Document field-tested strategies in a video and manual.

Participating Children and Their Teams

Tactile strategies were identified, implemented, and evaluated with four children, their families, and educational teams. Baseline data collection involved observation of activities, interviews, and videotaping of selected activities. Once these data were collected and reviewed, SALUTE staff met with parents and educational team members to identify issues, training needs, and goals related to the use of tactile strategies with each individual child. An action plan was developed with follow-up dates. Project staff disseminated a summary of the meeting and also provided ongoing technical assistance and training as needed. Technical assistance visits involved primarily group discussion and problem solving and, on occasion, modeling strategies with the child and coaching family members and service providers. The level of technical assistance was non-intensive, between three to six visits a year. Some meetings involved the family and team of service providers; other meetings or consultations were held with individual service providers or family members. In the case of three children, their families and service providers requested that the project develop an individualized "Communication Dictionary" describing touch cues, object cues, and signs to be used with the child. Twice a year, each child was videotaped in selected activities with parents and service providers. These tapes were coded for the parents' and service providers' use of tactile strategies and child responses.

The children who fully participated in the project were boys between the ages of 12 months and 10 years when they first entered the project. A brief summary of each child follows. Two other children (ages 5 and 9 years), their parents, and teachers participated in some aspects of the project but were not involved in our data collection.

Child #1

Child #1 participated in the project between 12-36 months of age. He displayed exploratory behaviors by handling objects; and he enjoyed roughhousing games with his brother and father, and walking outside with support. He was diagnosed with CHARGE syndrome and had no vision in the right eye and a severe visual impairment in the left eye. He had a severe to profound hearing loss (90dB left ear and 85dB right ear). He wore hearing aids inconsistently because of feedback from the ear molds and many ear infections (requiring tubes in both ears); and he pulled the hearing aids off. He also had a gastrostomy tube and a tracheotomy.

During the first three years of life, Child #1 received weekly home visits from an occupational therapist and an infant development specialist who focused on his vision skills. He also had a health aide at home because of his medical needs. When he was 18 months old, he and his mother attended a weekly center-based program for young children with visual impairments. At first, they attended once a week and then increased their participation to twice a week. His parents and service providers were involved in project activities. Child #1 grasped objects, held them to his left eye, and patted them on his forehead. At age three, he used body movements and actions on people and objects to request activities (e.g., roughhousing game), objects, and attention; and he showed affection (e.g., snuggled into a parent's arms). In addition, at age three, the communicative meaning of his behaviors was easier to interpret than when he was younger; he had begun to approximate a few signs (e.g., MORE, SIT) within context; and he could walk with support. He also had mastered basic skills with objects (i.e., approaches, avoids, holds, releases, picks up, bangs, and explores objects; holds two objects and transfers objects from one hand to another), and demonstrated emerging skills in ways to access objects by searching for and locating them. In addition to speaking to Child # 1, his family and service providers provided object cues, some signs on body, and coactive and tactile signs to communicate with him. His family is bilingual (Spanish and English) but speaks primarily English at home.

Child #2

Child #2 participated in the project when he was 4 to 6 years old. During this period, he was in three different classes for children with disabilities in two different school districts. He enjoyed social interactions with his family (particularly with his sister) and other familiar people. He did not demonstrate consistent responses to visual or auditory stimuli. He was nonambulatory and had limited movements, but was able to grasp an adapted cup with both hands and bring the spout to his mouth. At 6 years, Child #2 primarily used facial expression and body movements (e.g., smiling, crying, vocalizing, turning away from, or turning towards an object) to request or refuse to do something and to request attention. He would move closer and reach for a desired object, move away from an undesired object, drop an object with purpose. Also he was learning to push an easily activated switch with physical assistance to start a cause-effect toy. His family and service providers mainly used object cues and coactive signs in conjunction with speech to communicate with him. Besides having severe hypotonia and developmental disabilities, Child #2 had severe medical needs that have required hospitalization. His family was bilingual (Spanish and English) but spoke primarily Spanish at home. His educational team included a special education teacher, special education assistant, teacher credentialed in visual impairments, teacher credentialed in the deaf and hard-of-hearing area, an orientation and mobility specialist, and a speech and language therapist.

Child #3

Child #3 participated in the project when he was 5 to 7 years old and attended a program for children with visual impairments. He enjoyed being with his family and liked music and banging on the piano. He was totally blind and had a moderate hearing loss and wore his hearing aids consistently. He was ambulatory and had developmental disabilities and other medical needs. By age 7, Child #3 had expanded his expressive communication to requesting more of an action or object by guiding the adult's hand to an object, using objects to request an action or object, and by signing YES or NO in response to questions offering choices. He also used a few other signs expressively, mainly related to foods. He had many basic skills to avoid undesired objects and was mastering skills in ways to gain access to objects and in ways to use objects. In addition to speech, his family and service providers used object cues, coactive and tactile signs to communicate with him. His family spoke Spanish. His educational team included the classroom teacher, one-to-one assistant, occupational therapist, speech and language therapist, and orientation and mobility instructor.

Child #4

Child #4 participated in the project when he was 10 to 12 years old and was fully included in his neighborhood schools. He enjoyed social interactions with peers (particularly his sister) roughhousing, playing with his dog, and relaxing in the hot tub. Although his visual evaluations and audiological reports indicate no visual or auditory responses, his family and service providers indicated that he heard sounds and may have had some functional vision. He wore hearing aids and corrective lenses (contacts and glasses). Child #4 had developmental disabilities and significant physical disabilities. He was nonambulatory but liked to move as much as his body allowed. He used a palmar grasp to hold objects. Child #4 communicated requests for actions, objects, and attention; and showed affection through facial expression, body movements, and some vocalizations. He could transfer an object from one hand to another, activate a switch with physical assistance; and he made choices between two items. In addition to speech, his family and service providers used object cues, textured symbols, and tactile signs to communicate with him. His family spoke English. His educational team included the general education teacher, special education teacher, one-to-one assistant, teacher in the area of visual impairments, teacher in the deaf and hard-of-hearing area, and occupational therapist.

Findings

Results of the implementation component of this project are limited by the very small number of children and by the heterogeneity of their abilities and needs. All of the children had health and medical concerns, and three of them were hospitalized at least once during the two years they participated in the project. Further, two of the children experienced several changes in classes and service providers that required establishing new relationships and beginning again to focus on tactile strategies. Data analysis of videotaped observations over the course of two years reflect the following trends:

- 1. An increase in the use of appropriate tactile strategies (hand-under-hand guidance, object cues, and adapted signs) by family members and service providers.**
- 2. A decrease in the use of hand-over-hand guidance by family members and service providers.**
- 3. An increase in positive and more active responses from children during interactions, including increased attention to the partner, increased frequency of responses to object cues and signs, and increased frequency of expressive communication. Examples**

include: signing YES when asked WANT EAT; signing MORE to request continuance of a roughhousing game when the adult paused and waited for the child's reaction; holding onto the spoon that was given as an object cue for "time to eat"; indicating a choice between playing and drinking by grasping the relevant object when offered a toy or a carton of juice; indicating a preference for clothing to put on by choosing between two different pants.

4. An increase in adult's expectation of child's response as measured by an increase in "wait time" and using less support to prompt a response.

5. An increase in readability (clarity) and elaboration (expansions and additional turns) of adults' interactions with children.

Project SALUTE also sought to validate the use of selected tactile strategies with children who are deaf-blind and have significant disabilities. Social validity of an intervention practice involves social acceptance and consideration of the (a) feasibility, (b) desirability, and (c) the effectiveness of the intervention procedure (Wolf, 1978); or the compatibility of the intervention with the values and perspectives of families and service providers (Snell, 2003). In other words, are families and service providers able and willing to use tactile strategies, and do these strategies make a difference in communicating with children who are deaf-blind and have additional disabilities? The literature review revealed two studies (Murray-Branch, Udvari-Solner & Bailey, 1991; Rowland & Schweigert, 2000) with individuals who are deaf-blind with additional disabilities that found object cues and textured symbols to be an effective communication means for this population. Although a very small sample, the children in Project SALUTE accepted and benefited from the use of a variety of tactile strategies (e.g., mutual tactile attention, tactile modeling, touch and object cues, and adapted signs) that enhanced their social interaction and communication with others.

Family members and service providers of the target children and participants in the focus groups have found tactile strategies to be useful and valuable for interacting with and teaching children who are deaf-blind. In follow-up interviews at the end of the project, parents of target children commented on the value of the project in facilitating team collaboration on their child's instruction, consistency across environments and people, and in providing technical assistance on the use of tactile strategies. Service providers also valued the project for the focus on tactile strategies and opportunities for professional development in working with children who are deaf-blind. They indicated generalized use of tactile strategies (e.g., hand-under-hand assistance, object cues, tactile books, adapted signs) that they

had learned in the project with other children who had visual impairments and additional disabilities. The development and use of intervention procedures that are acceptable to families and service providers are also indicators of socially valid practices.

References

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- Rowland, C., & Schweigert, P., (2000).** Tangible symbols, tangible outcomes. *AAC Augmentative and Alternative Communication, 16*, 61-78.
- Snell, M.E. (2003).** Applying research to practice. The more pervasive problem? *Research and Practice for Persons with Severe Disabilities, 28*, 143-147.
- Wolf, M.M. (1978).** Social validity: The case for subjective measurement, or how applied behavior analysis is finding its heart. *Journal of Applied Behavior Analysis, 11*, 203-214.

Special Features



Given the large percentage of Spanish-speaking families in California, the project obtained information from these families and produced materials that are culturally responsive by having a focus group in Spanish and through bilingual parent representation on the National Advisory and Development Committee and on project staff.



In the second and third years of the project, summer workshops were held in southern California including families and service providers of the four project children as presenters.
[\(click here to see photos of the summer workshop\)](#)



In the final year of the project, SALUTE disseminated the following materials:

- **A 60 minute closed-captioned video and DVD in English**
- **A 60 minute video and DVD in Spanish**
- **A manual on tactile strategies**

Dissemination

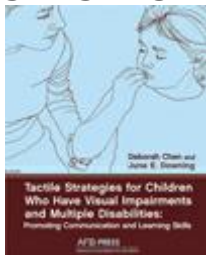
- **Presentations at state and national meetings throughout the project period.**
- **Chen, D., Downing, J., & Rodriguez-Gil, G. (2001). [Tactile strategies for children who are deaf-blind: Considerations and Concerns from Project SALUTE](#). *Deaf-Blind Perspectives*, 8(2), 1-6.**
- **Downing, J., & Chen, D. (2003). [Tactile strategies: Interacting with students who are blind and have severe disabilities](#). *TEACHING Exceptional Children*, 36(2), 56-61.**

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- **The Project SALUTE website was developed during the third year of the project. [DB-LINK](#) - The National Information Clearinghouse On Children Who Are Deaf-Blind, has hosted the site since December 2005.**
- **National and state technical assistance deaf-blind projects received a copy of the manual and videos at the end of the project.**
- **A video/DVD and book describe and illustrate key strategies:
Chen, D., & Downing, J.E. (2006). *Tactile learning strategies: Interacting with children who have visual impairments and multiple disabilities* [video & DVD]. New York: AFB Press www.afb.org**

Chen, D., & Downing, J.E. (2006). *Tactile strategies for children who have visual impairments and multiple disabilities: Promoting communication and learning*

skills. New York: AFB Press www.afb.org



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SALUTE is a model demonstration project funded by the U.S. Department of Education grant # H324T990025 to California State University, Northridge from September 1, 1999 to August 30, 2004.