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## **Use of Written Descriptions to Interpret Unconventional Communicative Acts**

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### Abstract

This present study examined the effectiveness of written descriptions of unconventional communicative acts as a method for unfamiliar communication partners to learn to interpret these acts, which represented the natural communicative repertoire of an adult with severe intellectual and physical disabilities. The subjects were randomly assigned to the experimental or control group in this repeated measures design. Subjects in the experimental group received only a brief exposure to the written descriptions and one opportunity to use them during the study. An omnibus ANCOVA revealed a significant interaction  $F(2, 27) = 23.47, p = .01$ . Post hoc analysis revealed significant effects in favor of the experimental group on observation 2, when using the written descriptions, and on observation 3 completed 48 hours later without the written descriptions. The post hoc results for observation 4 completed seven days after the initial exposure to the written descriptions, and clinical implications of these findings are discussed.

### Research Description:

The study reported in this paper is the second in a series of investigations into the effectiveness of written descriptions as a method to enhance the communication interactions of individuals who primarily produce natural unaided forms of communication. It is well established that individuals with severe disabilities are a heterogeneous population (Bloomberg & Johnson, 1990; Lafontaine & DeRuyter, 1987) and are just as heterogeneous in their communication profiles (McLean, Brady, McLean, & Behrens, 1999; Ronski, Sevcik, Reumann, & Pate, 1989). This line of research is intended to benefit older children and adults who are often characterized with the static term nonsymbolic communicator or the more dynamic term of beginning communicator. Regardless of preferred terminology, this population is unified by their dependence on communication partners to identify and respond to their bids for communication exchanges.

No matter how restricted or primitive the forms and functions are, the forms are considered communicative and are used as a foundation for alternative and augmentative communication interventions (Downing, 2005; Ronski, Sevcik, Hyatt, & Cheslock, 2002). For example, Calculator (2002) found that parents of children with Angelman

syndrome tended to rate a home program in which they were taught to use unaided communication strategies with their children as an acceptable and practical means for enhancing communication. Parents were required to learn to identify their child's spontaneously produced natural gestures. They were taught strategies to modify or enhance the natural gestures during daily activities. The small sample requires cautious interpretation, however the findings hint at the social validity of teaching parents this unaided communication strategy.

Another unaided communication strategy is the use of gesture dictionaries (Beukelman & Mirenda, 1998; Downing, 2005). For gesture dictionaries to be useful to communication partners, they must include descriptions of form, interpretations of the functions, and suggestions for partner responses (Siegel-Causey & Bashinski, 1997). Despite the obvious clinical application and familiarity of this strategy among clinicians there appears to be little empirical support documenting the effectiveness of such an intervention. In a pilot study, Kleinhans and Page (2007) verified reading written descriptions and interpretations of unconventional communication acts does support the accurate interpretation of these acts. A pretest-posttest completely randomized design was used to assess differences between the groups. An independent t-test revealed subjects in the experimental condition averaged a greater gain in correct interpretation ( $M=6.05$ ,  $SD=42$ ) using the written descriptions of the unconventional acts produced by an adult male with severe intellectual and physical impairments than did the control group ( $M=.45$ ,  $SD=.95$ ),  $t(38) = 13.245$ ,  $p=.01$ , two tailed. The calculated effect size from the results of the two independent groups  $t$  test was  $r^2=.82$ .

The large effect size reported in the Kleinhans and Page (2007) study led to the research question under investigation in this study. When provided with only a brief exposure to the written descriptions and minimal experience with them, could subjects sustain their accuracy in interpreting unconventional communication acts? The practicality of any intervention is directly influenced by how quickly it can be learned and how easy it is to use. Thus, it was essential to determine if a strategy such as written descriptions or a gesture dictionary make it easier for unfamiliar communication partners to get to know the communicative forms and functions of individuals with severe communication impairments.

Readers are referred to Kleinhans & Page (2007) for specific information on the development of materials used in both studies. A parent provided written descriptions and interpretations for eight unconventional communicative acts. For example, the parent described the communicative form for requesting a particular object as *chattering, and reaching sometimes frowning, sometimes smiling*. The entire act was comprised of three components (a) vocalization, (b) distal gesture, and (c) a facial expression. The parent's interpretations of the functions were free from professional jargon.

This randomized repeated measures design required subjects to complete four observations. Thirty nurse aide students participated in the study, with fifteen subjects randomly assigned to either the control or experimental group. Observations 1 and 2 were completed on the same day. Observation 3 was completed 48 hours after the beginning of the study and observation 4 was completed seven days after the onset of the study. For each observation, the subjects were required to watch an original DVD with 20 numbered segments. Ten segments were foils, behaviors that subjects might misconstrue as communicative but did not match those reported by the parent and ten segments were the

communicative acts as verified by the parent. The 20 segments were randomly ordered for presentation on each DVD and at least one sample of each communicative act found on the written descriptions was presented.

Prior to observation 1, subjects were instructed to watch each numbered segment and for each segment respond with a 'yes' or 'no' to the presence of a communicative act. In instances of 'yes' responses, subjects were required to report what they believed the adult was trying to say. Subjects had 30 seconds to record their responses before a tone drew their attention to the screen for the next segment. After observation 1, subjects had five minutes to review the written descriptions or complete a similar control task depending on their group assignment. During observation 2 subjects in the experimental condition were allowed to use the written descriptions. Instructions remained the same. After observation 2 all written descriptions were returned to the researcher. Procedures for observation 1 were repeated for observations 3 and 4.

Accurate interpretation of communicative acts was the dependent variable and observation 1 was the covariate for an analysis of covariance (ANCOVA). The omnibus ANCOVA revealed a significant interaction  $F(2, 27) = 23.47$   $p = .01$ . A follow up Tukey's HSD indicated that the experimental group had significantly greater mean accuracy for interpreting communicative acts for observation 2 than the control group ( $M = 6.73$ ,  $M = .931$ ) and maintained this significant advantage at observation 3 ( $M = 4.00$ ,  $M = 1.13$ ). There was no significant difference (Tukey  $a = 2.19 > 2.00$ ) between the experimental group ( $M = 3.00$ ) and control group ( $M = 1.00$ ) for observation four.

It may be plausible to attribute the positive results to some unique aspect of the communicative behaviors of the adult who assisted with this study. Only a replication with different volunteers can confirm or deny this. One might also argue the subjects' accuracy reflects their skill with interpreting isolated segments and not their ability to interpret and respond appropriately during naturally occurring exchanges. However, an empirical approach in evaluating evidence ensures the development of practical and effective interventions. Finally, while a significant difference between groups was not found for observation 4, the mean accuracy rate for the experimental group remained higher than for observation 1, and higher than the control group across observations, which raises some interesting questions about which variable or combinations of variables, time or experience, contributes to the relatively permanent effects associated with learning. The results do appear to support written descriptions as an intervention for children and adults with severe communication impairments. They are also particularly appealing because they (a) are an individualized intervention, (b) are useful to unfamiliar communication partners, (c) require only a minimal amount of instructional time and effort, and (d) appear to be cost effective.

References:

- Beukelman, D. R., & Mirenda, P. (1998). *Augmentative and Alternative Communication: Management of Severe Communication Disorders in Children and Adults* (2 ed.). Baltimore: Paul H. Brookes.
- Bloomberg, K., & Johnson, H. (1990). A statewide demographic survey of people with severe communication impairments. *Augmentative and Alternative Communication*, 6(1), 50-60.
- Downing, J. E. (2005). *Teaching Communication Skills to Students with Severe Disabilities* (2 ed.). Baltimore: Paul H. Brookes.
- Calculator, S. (2002). Use of enhanced natural gestures to foster interactions between children with Angelman syndrome and their parents. *American Journal of Speech-Language Pathology*, 11, 340-355.
- Kleinhans, K.A. & Page, J. L. (2007). *Interpretation of Communicative Acts of an Adult with Complex Communication Needs: A Pilot Study*. Manuscript submitted for publication. :
- Lafontaine, L. M., & DeRuyter, F. (1987). The nonspeaking cerebral palsied: A clinical and demographic database report. *Augmentative and Alternative Communication*, 3, 153-162.
- McLean, L. K., Brady, N. C., McLean, J., & Behrens, G. A. (1999). Communication forms and functions of children and adults with severe mental retardation in community and institutional settings. *Journal of Speech, Language, and Hearing Research*, 42, 231-240.
- Romski, M., Sevcik, R. A., Reumann, R., & Pate, J. E. (1989). Youngsters with moderate or severe mental retardation and severe spoken language impairments I: Extant communicative patterns. *Journal of Speech and Hearing Disorders*, 54, 356-366.
- Romski, M. A., Sevcik, R. A., Hyatt, A. M., & Cheslock, M. (2002). A continuum of AAC language intervention strategies for beginning communicators. In J. Reichle, D. R. Beukelman & J. Light (Eds.), *Exemplary Practices for Beginning Communicators: Implications for AAC*. Baltimore: Paul H. Brookes.
- Siegel-Causey, E., & Bashinski, S. M. (1997). Enhancing initial communicating and responsiveness of learners with multiple disabilities: A tri-focus framework for partners. *Focus on Autism and Other Developmental Disabilities*, 12(2), 105-121.