

**Effects of training paraprofessionals to use low-tech visual scene displays
(VSDs)
Long Abstract**

Introduction

Individuals with complex communication needs (CCN) are often severely restricted in their ability to communicate and develop language skills (Light & Drager, 2002). A major barrier preventing these individuals from accessing language and communication is a lack of access to appropriate Augmentative and Alternative Communication (AAC) systems. Many of the current AAC systems may be too complex for individuals with CCN to learn to use, especially for individuals who have severe cognitive deficits (Beukelman, 1991). In addition, these technologies can be expensive and may take time to get approved through insurance. Low-tech visual scene displays (VSDs) may be an appropriate solution in these situations. It is a low cost intervention that could be used when access to high-tech devices are not easily available, and it can be a way of “trying out” AAC before investing in a high-tech system.

Paraprofessionals provide educational supports to individuals with CCN throughout the day. However, paraprofessionals may not necessarily have received specific training on communication strategies that would facilitate communication with individuals who have CCN. Schepis and Reid (2003) argue that effective use of AAC systems depend significantly on the level of support from staff and other communication partners; in turn, their ability to support individuals with complex communication needs will depend on their level of training (Kent-Walsh and Light, 2003).

Aim

The objective of the current study was to study the effects of an AAC training incorporating low-tech VSDs for paraprofessionals.

Method

This study used an interrupted time-series quasi-experimental design (Shadish, Cook, & Campbell, 2002). The independent variable was the provision of AAC training, which included use of low-tech VSDs for paraprofessionals working with individuals who have CCN. The primary dependent variable was the number of evocative communication opportunities provided by the paraprofessionals during a naturalistic 10-min interaction. Evocative communication opportunities allow the child to take a more active role in an interaction. The secondary dependent variable was the number of communication turns taken by the students during a 10-min interaction. Six paraprofessionals and six students with CCN participated in the study.

Participants

Dyads of paraprofessionals and children were recruited. Each paraprofessional worked with one specific child. Adult participants were included if they met the following inclusionary criteria, (a) paraprofessionals worked with at least one child with severe communication difficulties in his/her classroom, (b) worked with children between 5 and 22 years, and (c) were willing to participate in the study.

Children were considered eligible if, (a) their speech was inadequate to meet their daily communication needs, (b) they were between 5 and 22 years, (c) were interested in looking at photos, (d) had hearing that was normal/within functional limits, (e) had vision that was normal/within functional limits, (f) had a paraprofessional in their classroom who was willing to participate in the study, and (g) parent/caregiver provided consent for them to participate.

Procedures

The study consisted of four phases: pre-training, training, post-training and maintenance. Each session within the pre-training, post-training and maintenance phases lasted approximately 10 min and all these were videotaped. Sessions took place two to three times per week.

The training consisted of a group training and three individual follow-ups with each paraprofessional-student dyad. During the training paraprofessionals were taught to: (a) provide evocative communication opportunities, (b) provide a means for the students to respond via the low-tech VSDs, and (c) wait for a response. Paraprofessionals were involved in developing the personalized low-tech VSDs for each student they worked with. During the group training they were shown how to construct the VSDs, how to decide on the hotspots for each scene, and how to present evocative communication opportunities. Using the low-tech VSDs was made user friendly by writing the appropriate evocative communication opportunity corresponding to that particular VSD on the back of it. The most salient hotspots were also written on the back of the VSDs. Therefore, when the paraprofessional held up the VSD in front of the child he/she knew exactly what to say and where on the VSDs they should be pointing to or modeling.

All sessions were coded for evocative communication opportunities offered by paraprofessionals and for communication turns taken by children. The definition of an evocative communication opportunity was adapted from Light, Collier, & Parnes (1985), Douglas, McNaughton, & Light (2014), and Whitehurst et al. (1988) as the following: (a) an open-ended question (which excluded yes or no questions), comment, or choice directed towards the student by the teacher; (b) provision of a means for the student to respond; and, (c) wait time of 5 sec or more. An evocative communication opportunity was defined as a combination of all three of these and was counted only if all three of these criteria were met. Paraprofessionals were also given credit for an evocative communication opportunity if the student responded to an open-ended question, comment, or choice via unaided means (e.g., speech, sign, gestures), or if the student responded within the 5 sec wait time (thereby making it unnecessary to wait a full 5 sec).

The secondary dependent measure was the number of communication turns taken by the students with CCN during a 10-min interaction. The operational definition of a communication turn was adapted from Bruce and Vargas (2007) and Carter (2003). A communication turn was defined as an *intentional communicative behavior* that transmitted a message and was directed towards a partner. *Intentionality* was indicated by the student attempting to initiate or respond to a communication partner by attending to the partner and/or system through eye gaze, gesture, leaning toward, touching, or vocalizations. A *communicative behavior* was defined as a behavior that transmitted a

message in a conventional form (speech, signs, gestures, pointing to pictures, pointing to words, use of AAC system) or non-conventional form (vocalizations or gestures). A turn was required to be both intentional and communicative to be counted as a communication turn. A communication partner speaking or a 2 sec interval between the end of one communication turn and the beginning of the next turn signaled the end of a student's communication turn.

Results

Preliminary data demonstrated all six paraprofessionals increased in the number of communication opportunities they offered children with CCN following the training. Full results from the study will be presented at the ISAAC conference in July 2016.

Conclusion

The results of this study provide preliminary evidence that training paraprofessionals could help facilitate communicative interactions between the paraprofessionals and individuals with CCN. In addition, training the paraprofessionals to use low-tech VSDs provided individuals in the study with CCN with a means to participate, when previously they had none. Low-tech VSDs could be a promising AAC solution that could be used with individuals with CCN. In addition, this study adds to the limited research base on paraprofessional training.

The authors disclose they have no financial or other interest in objects or entities mentioned in this paper.

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