Effect of a Training using Video VSDs On Peers' Interpretations of Communication from Students with Multiple Disabilities

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Rationale

- Individuals with multiple disabilities who communicate through presymbolic behaviors frequently display communication that is idiosyncratic and subtle
- Unfortunately, these communicative behaviors often go unnoticed or misinterpreted by communication partners
- In addition to the negative impact on quality of life for individuals with multiple disabilities, infrequent and inaccurate responses to communication from communication partners is detrimental to communication and language development
- Training communication partners to accurately interpret subtle, idiosyncratic communicative behavior may support communication partners in responding to it

Research Questions

- What is the effect of a training using video VSDs on the frequency of accurate (as defined by consistency with highly-familiar communication partners’) interpretations made by general education middle school peers of the behaviors of middle schoolers with multiple disabilities?

Method

- A pretest-posttest control group design was used to evaluate the impact of the training
- During the pre- and posttests, participants viewed 18 unique video clips (6 from each student with multiple disabilities) and, after each clip, decided:
  - Was the behavior communicative?
  - If so, what was being communicated?
- Pretest scores were subtracted from posttest scores to yield gain scores for each participant
- A one-way analysis of variance (ANOVA) was used to compare the gain scores of participants in the experimental and control groups

Participants

- 3 middle school students with an educational diagnosis of multiple disabilities
  - Alyse, Van, and Frankie (pseudonyms)
  - All 3 students communicated primarily through a small corpus of presymbolic, idiosyncratic behaviors
  - All 3 students were non-ambulatory
- 24 middle school students who were typically developing
  - The students were in grades 6, 7, or 8
  - 12 students were randomly assigned to the experimental group
  - 12 students were randomly assigned to the control group

Materials

- The training utilized EasyVSD (InvoTek, http://www.invotek.org) with video VSDs enabled
- Video depicting each of the 3 students with multiple disabilities producing communicative and non-communicative behaviors was imported in to the app

Procedures

- Participants in the experimental group completed a short, 15-min training using EasyVSD (InvoTek, http://www.invotek.org) with video VSD in which:
  - The investigator played videos depicting communicative behavior from each of the students with multiple disabilities and modeled accurate interpretation of that behavior
  - Participants engaged in guided practice viewing additional videos, interpreting those videos aloud, receiving feedback from the investigator, and programming hotspots onto the video VSDs labeling the meaning behind behaviors

Results

- In the pretest, peers inaccurately interpreted the communicative behavior of the three students (M = 32%)
- Following the intervention, each participant in the experimental group displayed marked gains in their interpretation scores (M = 53%)
- Participants in the control group did not experience gains (M = -3%)
- The difference between these groups was significant (F(1,22)=78.91, \( p<0.001 \))

Discussion & Implications

- Accurately interpreting the behavior of individuals with multiple disabilities who are presymbolic communicators is foundational to responding appropriately to those behaviors that are communicative
- Video VSD appears to be an effective and efficient modality for teaching peers to interpret presymbolic behaviors accurately
- Future research should evaluate the effect of video VSD on partner responsivity to presymbolic communicative behavior during live interactions
- Future research should also explore processes for supporting stakeholders (e.g., parents, teachers) in creating content for less-familiar communication partners using video VSD
- Future research should also consider subsequent effects on the individuals with multiple disabilities

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