Enriching Communication within Vocational Tasks for Adolescents with Complex Communication Needs Using AAC Video Visual Scene Displays

Salena Babb, Kirk Wydner, David McNaughton, Janice Light, & Lucas Pierce

Rationale

- Participation in employment and volunteer activities is strongly associated with quality of life.[1,2]
- Less than 5% of individuals with complex communication needs are employed (e.g.,[3]) and only 5.4% of individuals with a disability participate in volunteer activities.[4]
- For individuals with complex communication needs, challenges with speech may increase communication and social interaction difficulties in the workplace and community.[5]
- A video Visual Scene Display (Video VSD) approach integrates both video prompting and communication supports
  - Videos are programmed to pause at key junctures, and visual scene displays (still images with hotspots) are provided to support communication
- Video VSDs offer a potential solution for increasing communication and participation for persons with complex communication needs.

Research Questions

What is the effect of video VSDs on the percent of steps completed (and communication opportunities fulfilled) during a volunteer activity for adolescents with complex communication needs?

Methods

- **Research Design**: Multiple baseline design across four participants
- **Independent variable**: Video VSDs (programmed using EasyVSD) on a handheld tablet
- **Dependent Variable:** Percent of steps completed (and communication opportunities taken as described in a task analysis for the activity)

Participants & Activity

Participants with CCN

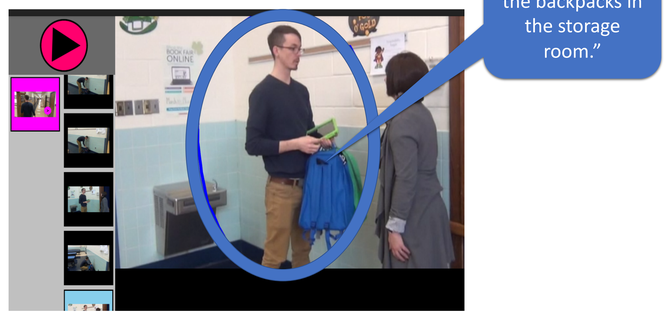
- Ivan - Male, 16 yrs, Autism Spectrum Disorder
- Jerry – Male, 20 yrs, Autism Spectrum Disorder
- Keith – Male, 20 yrs, Down Syndrome
- Martin – Male, 14 yrs, Down Syndrome

Setting and Activity

- Local elementary school
- Preparing backpacks for the school's food support program
  - backpacks with food were sent home each weekend for food-vulnerable students

Materials

- The video VSD app (EasyVSD) was housed on an Android tablet
- Video clips depicting each step of the activity were imported into the app
- When speech was required to complete the step, a hotspot was programmed containing speech output



Procedures

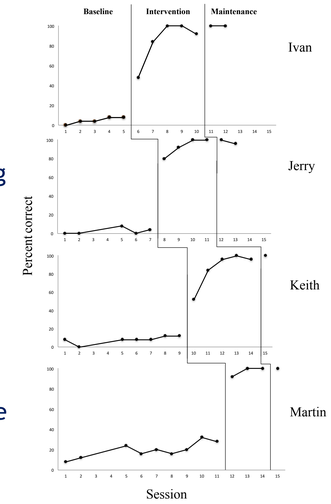
- A task analysis was created for each step of the activity.
- Video models of each step of the task analysis were recorded and imported into the video VSD app.
- The participants completed probes of each activity in the following conditions:

Baseline Phase	Intervention Phase	Maintenance Phase
• No tablet when completing the activity • Cue provided to start activity: "It's time to pack the backpacks."	• Participants participated in a brief instructional session prior to probe to view the video models • Participants had access to tablet when completing the activity • Cue provided to start activity: "It's time to pack the backpacks."	• Participants had access to tablet when completing the activity • Cue provided to start activity: "It's time to pack the backpacks."

Results

With the video VSDs, all four adolescents with complex communication needs were able to

- independently complete a volunteer vocational activity, including selecting and packing food items
- perform communication acts such as greeting the secretary, asking a supervisor for help, and letting the secretary know the task was complete
- continue to demonstrate independence two weeks after instruction ended



Discussion & Implications

- For individuals with complex communication needs, interventions that support both the learning of new skills and communication are necessary for participation within the community.[6]
- The results provide evidence that video VSDs provide communication and participation supports for individuals with complex communication needs during volunteer vocational activities.
- Video VSDs offer a solution that integrates both video prompting and communication supports with the goal of increasing independent participation in real-world settings.

Over 150 backpacks were packed and filled each week with food donated from the local foodbank and YMCA

- Full references and poster available at https://tinyurl.com/RERC-Backbacks-vVSD

Acknowledgements

The contents of this presentation were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number #90RE5017) to the Rehabilitation Engineering Research Center on Augmentative and Alternative Communication (RERC on AAC). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this presentation do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government