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

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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.,4) 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 difficulties in the workplace and community.1
- A video Visual Scene Display (Video VSD) approach integrates both video prompting and communication supports
- 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:** No tablet when completing the activity
  - **Intervention Phase:** Participants provided a start activity: “It’s time to pack the backpacks.”
  - **Maintenance Phase:** Participants had access to tablet when completing the activity

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 completed
- continue to demonstrate independent participation within the community

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.
- 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

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

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