

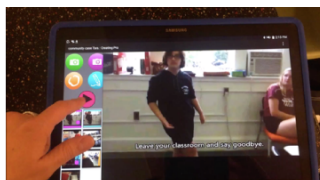


## Rationale

- Approximately 25-50% of adults with autism spectrum disorders (ASD) are employed (Hendricks, 2010; Wehman et al., 2012) with the majority of these individuals described as “high functioning” and using speech to communicate.
- 20-30% of individuals with ASD do not use speech to communicate and are described as having complex communication needs.
- Less than 5% of individuals with complex communication needs are employed (e.g., McNaughton & Bryen, 2002)
- For individuals with ASD and complex communication needs, challenges with speech may increase the communication and social interaction difficulties the workplace (Mirenda, 2014)

## Research Questions

Do videos with integrated VSDs on the EasyVSD application increase the percent of steps completed (and communication opportunities fulfilled) during vocational activities for an adolescent with ASD and complex communication needs?



## Design

- **Research Design:** Multiple baseline design across three activities
- **Independent variable:** EasyVSD application (InvoTek, <http://www.invoetek.org>)
- **Dependent Variable:** Percent of steps completed (and communication opportunities taken as described in a task analysis for each activity)

## Participants and Setting

### James

- 18 year old male
- Diagnosed with Autism Spectrum Disorder
- High school student
- No verbal speech
- A few signs (e.g., yes, no, thank you)
- Prompt dependent to complete daily tasks

### Local elementary school library

Four work activities:

1. Checking in books
2. Putting away/sorting books
3. Making dye cuts
4. Shredding

## Materials

- EasyVSD app (InvoTek, <http://www.invoetek.org>) housed on an Android tablet
- For each work activity: Video clips depicting each step of the activity was imported into the app. Each clip served as a video model.
- When oral communication was required to complete the step, a hotspot was programmed containing speech output to satisfy the requirements of the step



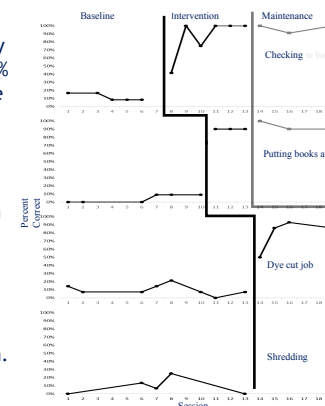
## Procedures

- A task analysis was created for each step of each activity.
- Video models of each step of the task analysis were recorded and imported into EasyVSD.
- James completed probes of each activity in the following conditions:

| Baseline Phase  | Intervention Phase  | Maintenance Phase   |
|---|---|---|
| <ul style="list-style-type: none"> <li>• James did not have the tablet when completing the activity</li> <li>• Cue provided to James: "It's time to ___"</li> </ul> | <ul style="list-style-type: none"> <li>• James participated in a brief instructional session prior to probe to view the video models</li> <li>• James had access to tablet when completing the activity</li> <li>• Cue provided to James: "It's time to ___"</li> </ul> | <ul style="list-style-type: none"> <li>• James did not have the tablet when completing the activity</li> <li>• Cue provided to James: "It's time to ___"</li> </ul> |

## Results

- James met mastery criterion (i.e., >90% accuracy) for three tasks.
- James generalized use of the EasyVSD app when interacting with an unfamiliar partner.
- James generalized use of the EasyVSD app to a new task (i.e., shredding) without instruction.



## Discussion & Implications

- Using the app, James completed tasks with over 90% accuracy with decreased reliance on staff prompting.
- This investigation suggests that videos with integrated VSDs facilitate video prompting and communication opportunities within real world contexts to support the participation and communication of individuals with ASD and complex communication needs.
- Future research should evaluate use of videos with integrated VSDs (a) with learners of different skills levels and diagnoses, (b) during multiple vocational and community activities, and (c) serving additional functions (e.g., visual schedule, social communication).
- Use of technology that provides videos with integrated VSD may create increased opportunities for individuals with ASD and complex communication needs to more independently participate in meaningful vocational and community activities.

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