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# Pilot Study: Assistive Technology as a Vocational Support for Individuals with Autism Spectrum Disorder

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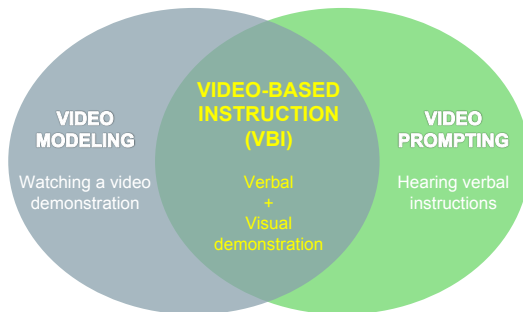
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## BACKGROUND

- ◆ **Autism spectrum disorder (ASD):** a lifelong neurodevelopmental condition with impairments in reciprocal social communication and social interaction, including restricted and repetitive behaviors, interests, and activities (American Psychiatric Association, 2013)
- ◆ **Video-based instruction (VBI):** helps increase functional independence and learning abilities through personal digital assistants (PDAs)
- ◆ **Effective vocational supports** are needed for individuals with ASD in order to establish self-independence and to be successful in the workplace (Hendricks, 2010)




## STATEMENT OF PURPOSE

**The purpose of this study was to examine the use of VBI on a PDA as a vocational support for learning novel tasks for individuals with ASD**

## IMPLICATIONS FOR OT PRACTICE

- ◆ Occupational therapists advocate for the use of VBI technology in the workplace to better suit the needs of individuals with ASD
- ◆ Technology is an essential part of everyday activities and a socially acceptable tool to use as an assistive device
- ◆ VBI helps reduce human error that occurs with other forms of demonstration and assistance
- ◆ Occupational therapists use VBI as an intervention to increase learning and self-efficacy with complex tasks

## RESEARCH DESIGN & METHODOLOGY

<b>Design</b>	Pilot Study – Mixed Methods Design
<b>Program Used on an iPad</b>	VideoTote program was selected because of its ease of use and customizability to a specific task
<b>Participants</b>	N=9 (8 males, 1 female)
<b>Measurements</b>	<p><b>Wechsler Abbreviated Scale of Intelligence (WASI):</b> a norm-referenced test with composite scores representing intellectual functioning in specific cognitive domains</p> <p><b>Social Communication Questionnaire (SCQ):</b> a screening evaluating communication skills and social functioning</p>
<b>Level of Independence Scale</b>	
	
<b>Intervention and Control Tasks</b>	Two tasks with 17 steps <b>Control:</b> written instructions <b>Intervention:</b> VBI on a PDA Used activity analysis to break down each task with similar activity requirements

## RESULTS

### Qualitative:

- ◆ Participants' perspectives from the follow-up survey included feelings that both tasks lacked complexity and VBI is beneficial when learning difficult tasks

*"I am a fairly visual learner, and do better learning new and complex procedures while being shown, either physically or by video. The step-by-step chapter breakdown would be very helpful."*

**8 out of 9 participants stated they believed the use of an iPad could help them learn other tasks**

*"It may help me learn to cook in the future."*

*"It can help me look up instructions."*

### Quantitative:

- ◆ There was a positive correlation between the participants' WASI performance score and the VBI score:  $r = .709, p = \leq 0.05$
- ◆ Slight increase in level of independence while using VBI to perform a novel task
- ◆ Independence scores across participants were about 9% higher on the VBI task compared to the written task ( $M = .09$  points,  $ns$ )

## CONCLUSION & RECOMMENDATIONS

- ◆ VBI was successful in guiding constructional cooking tasks when broken down into simpler steps, regardless of FSIQ-4 or previous cooking experience
- ◆ Individuals are able to use VBI, even without the ability to read or cook
- ◆ VBI scores were highly correlated to performance skills score on the WASI, but not correlated with written task scores
- ◆ For future research, we recommend using two tasks with little or no overlap to reduce any learned effects

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