

Research Highlights

Topic: Technology Use

Davies, D.K., Stock S., & Wehmeyer, M. L. (2002). Enhancing independent task performance for individuals with mental retardation through use of a handheld self-directed visual and audio prompting system. *Education and Training in Mental Retardation and Developmental Disabilities, 2002, 37(2), 209-218.*

BOTTOM LINE

The self-direction of adults with mental retardation was enhanced in performing community-based vocational tasks through use of a prototype Windows CE based multimedia palmtop computer program called *Visual Assistant*. When using *Visual Assistant*, participants made significantly fewer errors in performing vocational tasks. The authors conclude that using palmtop and handheld PC technology supports increased independence and self-determination for individuals with mental retardation and other disabilities.

TIPS

- Audio prompts and photographs are helpful cues in helping people with mental retardation complete vocational and personal tasks independently.
- Prompts should be personalized to the individual's needs.
- Handheld computers are widely used by the general public, so they may be less stigmatizing than other assistive devices.

KEY FINDINGS

- Participants made significantly fewer errors and requests for help with *Visual Assistant* software on a palmtop computer, than without using this method.
- Participants enjoyed using the palmtop devices, eliciting comments of self-confidence and self-praise.

KEY FINDINGS cont.

- The use of this additional training tool may reduce staff time required to train and continually supervise people during repetitive tasks.
- Handheld computers are widely used by the general public, and may be less stigmatizing than other assistive devices, thus promoting community inclusion.

METHOD

- Eight men and two women volunteers with mental retardation receiving community-based vocational supports from a local agency, ages 18-70 participated. Informed consent was obtained from all subjects prior to beginning the study, and study participants were compensated for participation.
- The *Visual Assistant* software program called *Schedule Assistant* was used. This automated multimedia scheduling system operates on Windows CE palmtop computers. Visual and audio prompts serve as the reminders to follow steps in tasks. Users select a task, and then a picture of the first step appears on the screen along with an audio prompt. After that step is completed, users press the “Done” button. Users then press “Play” for the next step and associated picture and audio prompts appear. This sequence is followed until the task has been completed.
- A two-group within subjects design was used. Each participant in the study received training on how to operate the *Visual Assistant* prototype. Two groups were trained to assemble pizza boxes and to package software using the *Visual Assistant*. Both groups also performed the tasks without using the *Visual Assistant*.
- Data were collected on independence (measured by the number of prompts required) and on accuracy (measured by the number of errors made on each vocational task). A questionnaire was also used to collect feedback from support professionals and study participants.
- Paired comparison *t*-tests were used in analysis of results.

RELATED PUBLICATIONS

- Davies, D.K., Stock, S., & Wehmeyer, J. L. (2002). Enhancing independent time management and personal scheduling for individuals with mental retardation through use of a palmtop visual and audio prompting system. *Mental Retardation, 40*, 358-365.
- Davies, D., Stock, S., & Wehmeyer, M. (2001). Enhancing independent internet access for individuals with mental retardation through use of a specialized web browser: A pilot study. *Education and Training in Mental Retardation and Developmental Disabilities, 36*, 107-113.

This study was funded in part by the Department of Education under P.O. # ED-98-PO-3737 awarded to AbleLink Technologies. For more information, contact the Beach Center on Disability at 1200 Sunnyside Avenue, 3111 Haworth Hall, The University of Kansas, Lawrence, KS 66045-7534. Phone: 785-864-7600. Email: Beachcenter@ku.edu. Website: www.beachcenter.org.

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