

Using a Handheld Computer as a Cognitive-Behavioral Tool

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Apple's ipod touch and ipad, and the growing catalog of Android and Microsoft tablets, are remarkably versatile and agile tools that have taken the consumer world by storm. Within the disability community, it has become clear that these devices can be readily customized and adapted to address cognitive-behavioral challenges. Because they are so portable, they can be used as behavioral supports at home, at school, at work and in the community.

Because these devices can do so much, it can be challenging to figure out what to do first. The following guidelines are based on a decade of community-based PDA research in VCU's Assistive Technology for Cognition laboratory. They are not intended as strict rules, but as suggestions for ways to get the most from these products.

Remembering to Do Things

The very first Palm Pilot PDAs came with to do list apps and calendars with reminder alarms, giving them a distinct advantage over paper-based scheduling products. Setting an alarm for daily tasks can be a game-changer for people with memory or attention challenges, and current devices offer a wide range of tools for doing just that. Apple products include a *Calendar* that allows alarms to be tagged to everyday events; the iphone and ipod touch also offer a versatile *Clock* app that allows you to choose a customized reminder sound for each task (including one particularly insistent reminder that only turns off when you tap the screen). Android tablets include Google Calendar, and Microsoft tablets include a tablet version of *Outlook*, both of which incorporate reminder alarms. All of these products feature note-taking apps that allow for the creation of to do lists. There are at least 500 add-on apps available, offering variants on these onboard calendars. For Apple products, the online iTunes Store is where you will find them. For Android products, search the online Android Market.

Task-Sequencing & Wayfinding

People who have difficulty learning to complete multi-step tasks independently (morning grooming tasks, complex job skills, etc.) can use these devices as task coaches. Some people only need a step-by-step written task list, or a list that includes a picture prompt. *Errands*, *Visules* and *HomeRoutine* are inexpensive apps for creating such supportive task sequences. You can also create a *Powerpoint* sequence of pictures and captions for any task, click to create a movie version and download that for playback on your handheld device. For people who need audiovisual support, you can create a video showing the task being performed successfully, and have it available for playback when needed. Most current PDAs and tablets come with onboard video recording capabilities. Using these videocameras, it is easy to build videos showing turn-by-turn routes through a building or across a campus. For many people with cognitive challenges, these videos are easier to follow than the abstracted images on maps.

Social Stories and Behavioral Cues

As with task-sequencing, supports may include a written set of directions, a captioned picture sequence, or a videotape modeling appropriate behaviors. See the attached *Video Modeling using Handheld Computers* for more information about this approach.

Stress Management

Relaxation apps, art and music apps and many puzzle and game apps can help people relax in stressful situations. *SimplyBeing*, for instance, plays new age music and shows relaxing natural scenes, while *Tactical Breathing Trainer* and *Breathe2Relax* use simple video graphics to teach deep breathing relaxation methods. *Bloom* and *Seline HD* are entrancing music apps, *WURM* and *Meritum Paint* are relaxing finger painting apps, and there are thousands of puzzle and game apps that may appeal.

Academics, Healthy Living and Beyond

You may wish to use your portable computer as a homework tracker. *iHomework* and *iStudiez Pro* provide comprehensive support for classwork, planning and reminders. Dictionaries, algebra helpers, astronomy maps and frog dissection simulations are just a few of the thousands of academic apps now available. You may also use your handheld device as a health coach. *All Fitness*, for instance, provides video-guided workouts, *Sleep Cycle* purports to track your sleep habits, and *Lose it!* is one of many calorie counting weight loss apps on the market.

Clearly, it is possible to build a personalized suite of supportive apps on your smartphone, ipod touch, ipad or tablet. I wish you luck as you do so, and would like to hear about your experiences. Please contact me at logentry@vcu.edu.