### Table 1. Case Examples of Occupational Therapy Using AT

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<td><strong>Older adult as primary caretaker for spouse with Alzheimer's disease</strong></td>
<td><em>Occupational Goals:</em> The client's desired occupation is to enable her spouse to age in place with her as his primary caretaker. <em>Occupational Analysis:</em> The client factors and performance skills providing strengths on which an intervention plan is designed are her intact cognitive processes and emotional stability, allowing her to be highly organized in the care of her husband. Barriers to successful participation in her desired occupation are her physical stamina, strength, and musculoskeletal changes causing pain. <strong>AT Consideration:</strong> A tablet may provide ease of use and reliable functionality that does not overly challenge the client's confidence for success or skill development.</td>
<td>Although the client's emotional stability is a strength, the nature of the occupation limits the client's ability to maintain social contact with family and friends. Thus, the OT will train and support the client in accessing social media using a tablet to maintain contact with family and friends. Because of the client's limited comfort with technology, this requires ongoing training and monitoring to facilitate the client's success. The client finds great satisfaction in preparing meals for her husband, but sometimes her reduced stamina for the day's work limits her ability to complete the day with a prepared meal. The OT completes an activity analysis in collaboration with the client to consider her options for conserving energy and to allow for the unexpected challenges that may occur in a day. Building on the client's strength in organizing her day, the OT supports the client in mapping out the day's schedule for a 2-week time span using the calendar function built into the tablet. A list of common tasks in each day supports the client to accomplish this with ease and efficiency.</td>
<td>Research on the use of social media by older adults is still emerging as this population continues to adopt social media and tablets. One qualitative study offers guidance to occupational therapy practitioners in using social media with older adults: (1) introducing the concepts first before introducing the features, (2) addressing concerns about privacy, and (3) making social media more personally relevant and meaningful (Xie, Watkins, Golbeck, &amp; Huang, 2012). The evidence for using health-focused mobile apps for older adults is also emerging but promising, particularly in terms of health monitoring and managing chronic symptoms such as pain and fatigue. In their review of literature on the use of mobile apps for older adults, Joe and Demiris (2013) suggested that health care providers should consider age-related decline, fine motor abilities, and visual and somatosensory acuity when presenting mobile devices and apps. Therefore, the OT should explore accessibility features of the tablet device (e.g., large letters, icons). Regardless of client age, the use of health-focused apps is most successful when the apps are gamified, provide reminders, have tracking functions, and have the perception of usability by the client (Mendiola, Kalnicki, &amp; Lindauer, 2015).</td>
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<td><strong>Child with cognitive, physical, and communication impairments at school.</strong></td>
<td><em>Occupational Goal:</em> The client’s desired occupation is to participate in the learning activities presented in his classroom at school.</td>
<td>To align the design of learning activities with state-mandated educational standards, the OT partners with the classroom teacher to identify academic learning goals to focus on with the switch-activated learning activities. Once learning goals are clarified, the OT works with the classroom teacher to design activity sequences to support the child's skill development toward the learning goals.</td>
<td>A collaborative approach to address educational standards and achieve optimal outcomes through the use AT and related adaptations is viewed as best practice (Horn &amp; Kang, 2012; Udvari-Solner, Causton-Theoharis, &amp; York-Barr, 2004). The collaborative partnership among team members including the teacher and OT with expertise in AT services and AT devices should take place from the initial provision of the AT, through how the AT is implemented to support learning, and the ongoing assessment of the AT's utility and effectiveness.</td>
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(Continued)
Case Description (Setting, Client Profile)

Considerations for Technology Interventions (Clinical Reasoning)

Examples of Occupational Therapy Interventions and Role of Occupational Therapy Practitioners

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**Occupational Analysis:** In evaluating factors that facilitate successful implementation of the intervention, the OT identified the following: (1) the willingness of the teacher to invest in the work and collaborate with the OT to successfully engage the child in meaningful learning experiences and (2) the availability of two consistent and reliable switch access sites, using the client’s head for one switch activation site and using the ulnar side of the child’s right hand as a second site. Concurrently, the OT must consider the teacher’s lack of experience with switch-controlled learning activities, the child’s physical growth and development in relation to his existing and future needs for seating and positioning, and the child’s limited motor skills to activate the switches and limited understanding of cause-and-effect in switch-activated learning activities.

**AT Consideration:** Switch activation of learning activities may include numerical, alphabetical, and pictorial options. A potential modification to the head array and the right armrest of the seating system may be configured to accommodate the proper placement of the switches.

The teacher and the OT collaborate to design 3 consistent two-choice sequences that will initiate the child’s training in two-switch activation while engaged in learning activities.

The OT sets up the two-switch access to the classroom computer and trains the teacher how to support the child in using the switches with the choice sequences and how to use the choice sequences to facilitate the child’s participation in learning activities. The OT provides this support across multiple sessions with the teacher and the child, modeling with the child while the teacher observes, coaching the teacher’s implementation of the switch activation with the child, and monitoring the data the teacher collects while implementing the AT with the child when the OT is not present.

The OT participates in a full team review of the child’s progress with developing switch activation skills every 2 weeks so that the multidisciplinary team is providing a consistent continuity of care across the multiple services the child receives at school.

The OT keeps in mind the need to collaborate in the future with a seating and mobility specialist as the child outgrows his current seating and mobility system.

Specific to switch adaptations, an empirical review of studies on AT for children with multiple and profound impairments indicates that choice interventions can lead to a decrease in inappropriate behaviors and an increase in appropriate behaviors (Cannella, O’Reilly, & Lancia, 2005). Furthermore, Saunders and colleagues (2005) suggested that two-choice conditions using AT switches produce convincing indicators of learning.

**Occupational Analysis:*** The client’s desired goal is to finish her college degree, which was interrupted by the injury.

**Occupational Analysis:** The client has achieved a level of modified independence in self-care activities and mobility with the use of a 4-point cane at home and a power chair in the community, which support her decreased balance and low endurance. Because of the client’s physical limitations, the OT suggested pursuing degree completion through online learning. Initial evaluation

**Occupational Goal:** The client’s desired goal is to finish her college degree, which was interrupted by the injury.

**Occupational Goal:** The OT collaborated with the client to explore strategies to enhance her occupational performance related to online learning.

The OT provided remedial interventions to improve the client’s ocular motility and strength while teaching her how to adjust the visual contrast and resolution of the computer screen.

In a systematic review of the efficacy of EPADs for people with TBI (Charters, Gillett, & Simpson, 2015), the authors found sufficient evidence to recommend the use of EPAD reminder systems to support everyday functioning. Mobile devices such as iPhones and Androids are a suitable substitute for EPADs. With the multitude of available apps in the marketplace, the therapist and the client have many options to choose from, but the modification process may be a daunting task. AOTA’s website (http://www.aota.org/Practice/Rehabilitation-Disability/RDP-apps.aspx) has resources for app recommendations.

**Table 1. Case Examples of Occupational Therapy Using AT**

(Continued)
Considerations for Technology Interventions
(Clinical Reasoning)

Examples of Occupational Therapy Interventions and Role of Occupational Therapy Practitioners

Evidence and Related Resources Guiding Occupational Therapy Practice

indicates that the client is proficient in operating a desktop computer with a large screen and a mobile tablet/digital reader. However, her main complaints include headaches, blurry vision, and photosensitivity after an hour of use. Her mental endurance is also limited; when mentally fatigued, her memory, attention, and executive functioning declines.

**AT Consideration:** The adaptability features of a desktop or laptop computer may be useful. In addition, use of a portable electronic device such as a tablet, larger smartphone, or reader can be explored.

In addition, the OT suggested using the alarm functions of the client's mobile device and installed a task reminder app (e.g., Any.do) not only to cue her to take visual and mental breaks but also to provide external strategies to assist with memory and executive tasks (e.g., sequencing, organization).

**Note.** AOTA = American Occupational Therapy Association; AT = assistive technology; EPAD = electronic portable assistive device; OT = occupational therapist; TBI = traumatic brain injury.