Digital closets – An engaging method of teaching wardrobe basics to adults with intellectual and developmental disabilities

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Background – Individuals with intellectual and developmental disabilities (I/DD) can experience attitudinal, communication, physical, policy, programmatic, social, and other barriers that limit their ability to thrive independently and in a larger community (CDC, 2018). The population of individuals with I/DD is significant; a landmark 2011 study showed that 1 in 6 children have developmental disabilities, with particular increases reported in autism and attention deficit hyperactivity disorder over a 12-year period ending in 2008 (Boyle, et al., 2011). This suggests a large number of adults currently living with I/DD, with potential unmet needs.

Apparel concerns for adults with I/DD: Researchers have studied apparel needs of individuals with I/DD, focusing on a lack of appropriate designs for physical or mobility concerns (Bhakta, et al., 2017; Kabel, Dimka, & McBee-Black, 2017). Functionality is a critical consideration, but individuals with I/DD may also struggle to find appropriate clothing for social activities, employment or everyday life events (Kabel et al., 2017). These issues negatively impact the well-being of individuals with I/DD and prevent them from living their best lives.

Objective – This abstract focuses on a portion of a community outreach project that addresses the well-being and capacity development of adults with I/DD through curriculum design and mentoring. The project integrates areas of fashion, nutrition, resource management, and healthy relationships in a curriculum that aims to holistically enhance independent living skills for a group of 8 adults with I/DD. Faculty experts and community-based program directors collaborated on curriculum design, and undergraduate student mentors were then paired with adults with I/DD to deliver the curriculum and record outcomes.

Prior to program delivery, participants with I/DD were surveyed to gauge initial knowledge/skills across planned content areas. Faculty targeted curriculum development toward areas of weaknesses. Interestingly, only one participant indicated ease in deciding what to wear; 3 of 8 noted difficulty when dressing for a special occasion; and 2 of 8 said they had a hard time picking out clothes every day. As a follow-up response, 3 of 8 participants specifically indicated that they did not know how to put outfits together. Thus, an objective of one curriculum module was *to provide a definition of apparel basics and help individuals with I/DD style these basics for a variety of potential activities or settings.* This abstract overviews the approach and outcomes of the teaching strategy used to address the objective

Approach – Prior to curriculum development, program directors challenged faculty to create engaging, hands-on content to increase knowledge and skills of participants with I/DD. They cautioned against lecture-heavy presentations and encouraged guided learning.

Understanding the population: Of the 8 participants in the program, the most prevalent disability was autism (4 of 8), with others diagnosed with intellectual delays, Freeman Sheldon Syndrome, and cerebral palsy. Four were male and 4 were female, and ages ranged from 21 to 28. Two of the 8 participants live independently, while others live with family.

Digital closets: Several studies have shown that iPad's are effective instructional tools for students with autism and other developmental disabilities. They have been associated with decreases in challenging behavior and increased academic engagement (Neely, Rispoli, Camargo, Davis, and Boles, 2013) and improved communication and positive adaptive skills (Alzrayer, Banda, & Koul, 2014). In addition, program directors shared that participants were familiar with and typically enjoy using tablet-based technologies.

This curriculum module utilized an iPad app, Stylebook, to define a wardrobe basic and offer styling practice. The app is a digital closet, designed to allow users to visualize their wardrobe, make outfits with existing garments, create packing lists, track wear patterns or plan future outfits, and create shopping lists to guide future purchases (Stylebook). While not originally designed as a teaching tool, the app's organizational and calendar features were viewed as a potential way to help participants visualize apparel basics, create outfits, and plan looks for future activities.

Prior to module delivery, faculty loaded full digital closets representing wardrobe basics for males and females onto 8 iPads. The closets included basics such as t-shirts, jeans, blazers, pants, suiting, and accessories. Male closets and female closets were consistently created using garment images found online. In addition, 4 scenarios were identified to provide participants with styling practice across settings that varied in formality, time of year, and event size. During mentor training, students were asked to tailor closets and scenarios to their mentees, provided that all garments added were considered a wardrobe basic and scenarios were varied. During program delivery, student mentors guided participants with I/DD through the definition of a wardrobe basic and then discussed styling strategies for professional, casual, and formal activities. After the lesson, participants were challenged to create outfits for the various settings defined. Mentors recorded observations in journal entries submitted after module delivery.

Learning Outcomes and Implications –
Mentors indicated that most participants enjoyed using the iPads and app, and found app navigation easy. Technology integration was mentioned as the most helpful aspect of the module by 7 of the 8 mentors. Two mentors said that their mentees did not know the definition of a wardrobe basic prior to the lesson; two others set goals to buy a few basics missing from their wardrobe. One mentor mentioned that she needed to add basics in her mentee's favorite colors in order to make the lesson more relevant. Figure 1 shows an example of an outfit one of the male participants with I/DD created for a hypothetical wedding.

Figure 1. Sample outfit styled by participant with I/DD

The app was deemed a successful approach to teaching wardrobe basics to adults with I/DD, providing a visual reminder that participants could refer to after the lesson to assess their current closets and needs. In addition, the *looks* feature of the app gave participants a chance to style garments for different settings and events. When used in combination with the *calendar* feature, participants could use the app to organize looks for future activities; this might encourage easier social participation and community involvement that could enhance well-being.

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