



Using Wireless Technologies to Facilitate Competitive Integrated Employment for Individuals with Disabilities: A Systematic Review of the Literature

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Introduction

- Employment is a major part of an adult's identity and plays a significant role in creating a stable life environment (Chen, 2015)
- Americans with Disabilities Act (ADA) enacted a new set of standards for employers that requires reasonable accommodations to qualified individuals with disabilities in the workplace
- Workforce Innovation and Opportunities Act (WIOA) requires all state vocational rehabilitation programs must focus some of their efforts on transition services and pre-employment services, which includes training for assistive technology
- Even though employment is an attainable goal for individuals with disabilities, only 51.8% of young adults with ID were gainfully employed (NLTS-2).

Assistive Technology (AT)

"Any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities." (IDEA, 2004)

Internet of Things (IOT)

Wireless technology allow

Mobile vs Wireless Technology

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| <p>Can be taken anywhere. It requires an internal battery for power and must be connected to a mobile network</p> | <p>Does not mean mobile. Includes non-mobile devices (e.g., traditional desktop).</p> |
| <p>Access to the Internet through cell tower networks. Access not limited by physical location</p> | <p>Access to Internet is determined by physical location and proximity to a fixed device (i.e., router).</p> |
| <p>Utilizes cell towers to communicate with separate devices (synchronous or asynchronous)</p> | <p>Requires proximity to separate device for device-to-device communication</p> |

Methodology



Research Questions

- 1) What types of technology are being used in vocational skill acquisition interventions for individuals with IDD?
- 2) Of the technology used for vocational skill training, which technologies have wireless capabilities, and are those capabilities utilized during the intervention procedures?



Literature Review

An extensive review of the literature was conducted by faculty, students, and staff at Georgia State University. Inclusion criteria: studies had to 1) include participants with ID, 2) target a physical vocational skill, 3) use wireless technology, 4) utilize single-case methodology



Data / Analysis

- 41 studies met inclusion criteria -138 participants (111M, 27F) -Intervention type (83% visual/audio; 17% audio only)
- Intervention location (27% job sites; 52% schools; 10% clinics; 11% combination)
- Technology used (38% tablet; 17% smartphone; 10% wearable; 35% laptop/desktop)
- Studies reported increases in job functioning, work rate, self-esteem, self-determination)
- Few studies (2) taught participants how to use the technology



Conclusion

Very few studies utilized wireless functions within interventions. Although many researchers utilized schools as their intervention location, very few studies included opportunities to generalize their skill to the job site or acquire the skill at the job site. Surprisingly, a large number of studies utilized tablets versus smaller devices more commonly used on a daily basis (e.g., smartphone)



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References

1. American With Disabilities Act (1990), Pub.L. No. 101-336, 104 Stat 328
2. Chen, J, Leeder, G, Sung, Leahy, M. (2015). Trends in employment for individuals with autism spectrum disorder: A review of the research literature. *Journal of Autism and Developmental Disorders*, 2, 115-127.
3. Newman, L, Wagner, M, Knoke, A, M, Marder, C, Nagle, K, Shaver, D, Wei, X, with Cameto, R., Contreras, E., Ferguson, K., Greene, S., and Schwarting, M. (2011). *The Post-High School Outcomes of Young Adults With Disabilities up to 8 Years After High School. A Report From the National Longitudinal Transition Study-2 (NLTS2)* (NCESR 2011-1005). Menlo Park, CA: SRI International.
1. Workforce Innovation and Opportunity Act of 1998 29 USC 3101 (2014)

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