



# Research Summary on Assistive Technology Interventions

A research synthesis reviewed 109 articles published from 1980 through 2012 on the use of assistive technology (AT) with infants and young children with disabilities (Dunst, Trivette, Hamby, & Simkus, 2013). Of the 109 articles, 42 were some type of group research designs and 67 were single participant research designs. The outcome measures in the studies included assessments of child behavior while using the AT devices as well as changes or improvements as assessed by independently administered scales or instruments.

How were AT practices defined and implemented?

The studies investigated the use of five different assistive technology devices: computers (43 studies), switch interfaces (31 studies), augmentative communication (22 studies), powered mobility (10 studies), and weighted/pressure vests (7 studies). Information about who facilitated children's use of AT was not provided in the synthesis.

What were the characteristics of the participants and settings?

The studies included 1,342 infants, toddlers and preschoolers, ranging from 3 to 105 months of age. The majority had specific disabilities while some had non-specified developmental disabilities or delays. The identified conditions included pervasive developmental disorders (e.g., Autism), chromosomal aberrations (e.g., Down syndrome), physical disabilities, spinal cord aberrations, speech and language disabilities, sensory disabilities, and multiple disabilities. The review did not describe the characteristics of the settings in which children used the AT devices.

What were the key findings related to children's use of AT?

The results of the synthesis indicated that, with the exception of weighted and pressure vests, the use of AT devices was related to improvements in child outcomes across multiple domains including cognitive, social, communication, literacy, motor, adaptive, and increases in engagement in learning activities. The use of AT devices was effective for all types of children studied, regardless of type of disability or severity of the child's intellectual delay.

Bottom line

Research on AT has shown that the use of AT devices by young children with disabilities is warranted and likely to promote positive outcomes across multiple domains. The authors of the synthesis noted that despite research which shows that AT devices are effective, there is no guarantee that they will be used in effective ways.

Professional development for adults is an important component in the use of AT devices.

Citation: Dunst, C., Trivette, C., Hamby, D., & Simkus, A. (2013). Systematic review of studies promoting the use of assistive technology devices by young children with disabilities. *Tots-n-Tech Research Brief*, 8(1).

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