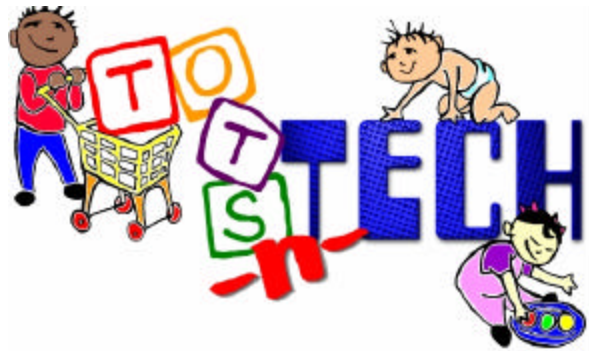


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# Assistive Technology Training for Providers & Families of Children in Early Intervention



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Assistive technology (AT) promotes children's learning and development by allowing children to more effectively participate in activities and routines in their natural environments (Langone, Malone & Kinsley, 1999; Mistrett, 2001). However, AT use is reported on Individual Family Service Plans (IFSPs) for only a small percentage of infants and toddlers. A comparison of OSEP Annual Reports to Congress from 1998 to 2002 indicated that AT is consistently listed as a service for approximately 4% of infants and toddlers nationally (U.S. Department of Education, 2002). One reason for underutilization of AT with infants and toddlers may be attributed to limited knowledge by parents and providers and a lack of training to provide them with that knowledge. Therefore, a primary research question of the Tots n Tech Research Institute has been to identify the current methods in which early intervention providers and families of infants and toddlers learn about AT. This brief research report summarizes our findings from two related studies: (a) follow-up telephone survey with providers and (b) national document collection.

## Method

### *Provider follow-up study*

Telephone interviews were conducted nationally with a probability sample of parents and providers. The sample included 967 providers and 924 parents. Participants were queried about five primary areas: AT use/prevalence, policy/resources, decision-making, training/support, and funding. A follow-up telephone interview was conducted with a sample of 450 providers who stated in the initial interview that they would be willing to participate in a second survey. The follow-up survey asked providers about AT decision-making and training. The results presented in this brief focus on the training questions from the follow-up survey.

### *National document collection study*

For the national document collection study, the Tots n Tech Research Institute gathered and catalogued documents from each of the fifty states. Four main informational sources were used to obtain documents and/or information on AT training opportunities: (1) state contact (i.e., either the Part C coordinator or an individual designated by the Part C coordinator); (2) comprehensive web searches; (3) University Centers on Disability (UCD); and (4) follow-up with state Technology Act Program directors, who in a previous interview identified training programs or materials.

As a general protocol, contact was initiated three times (via a combination of email and telephone) before communication attempts were terminated. Individuals were asked a series of questions: (1) whether training was specific to the infant/toddler (birth to three) population and if not, what age range was targeted; (2) who was trained (e.g., parents, providers, both); (3) what was the focus/topics of trainings (individuals provided response(s), which were then categorized it into one of four areas: specific devices/services, policies/procedures, funding, monitoring/evaluations); (4) how instruction was provided (individuals provided response(s), which were then categorized into one of five areas: didactic practices, hands-on/interactive, mentoring, consultation, self-study); (7) duration of trainings (i.e., single session workshops, workshop series, or training happened on a continuous/as needed basis such as occurs with mentoring/consultation); and (8) purpose of trainings (individuals were asked the purpose or mission statement and responses were coded into one of three categories: increase awareness, skill-building, or implementation/intervention).

## Results

### *Provider follow-up study*

A sample of 450 providers responded to training questions in a telephone survey. Participants were asked whether they had engaged in a specific training activity about AT and infants and toddlers within the past 3 years (and the extent and degree of its helpfulness). Potential training activities included: (a) workshops/presentations; (b) college course; (c) self-study via Internet or resource materials; (d) mentoring (i.e., formal and informal); and (e) technology fairs/expos (see Figure 1). Although averages are reported for the following training activities, the standard deviations are large, suggesting there is a high variability.

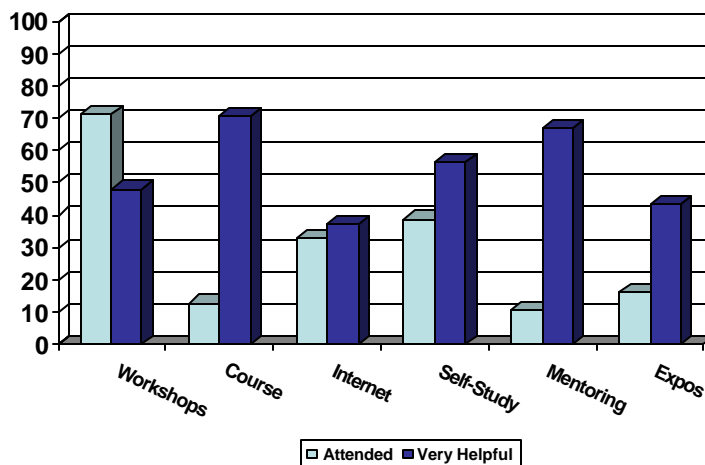
*Workshops/presentations:* 321 providers (71.3%) stated they had attended an AT workshop/presentation and found the training to be helpful, with 48% stating it was “very helpful” and 47.7% stating it was “somewhat helpful” (only 4.4% reported training to be “not very helpful” and 0% reported training to be “not at all helpful.”). Providers reported they had participated in, on average, 19.4 training hours in the past 3 years (with a standard deviation of 28.1 hours).

*College course:* 58 providers (12.9%) reported taking a university or college course. Most (70.7%) considered the course as “very helpful” and 27.6% stated it was “somewhat helpful” (only 1.7% reported the course to be “not very helpful” and 0% reported the course to be “not at all helpful.”). On average, providers reported that in the past 3 years, they had completed 15 credit hours (with a standard deviation of 25.8 hours).

*Self-study:* 150 providers (33.3%) reported engaging in self-study on the Internet, with 37.3% stating it was “very helpful” and 60.0% stating it was “somewhat helpful” (only 2.0% reported Internet to be “not very helpful” and less than 1% reported it to be “not at all helpful.”). On average, providers reported engaging in Internet self-study for 24.0 hours (with a standard deviation of 48.9 hours). A total of 175 providers (38.9%) reported engaging in self-study with manuals, videotapes, or CD's, with 56.6% stating it was “very helpful” and 40.6% stating it was “somewhat helpful” (only 1.7% reported self-study with reference materials to be “not very helpful” and less than 1% reported it to be “not at all helpful.”). On average, providers reported that in the past 3 years, they had engaged in self-study with resource materials for 18.9 hours (with a standard deviation of 32.4 hours).

*Mentoring:* 48 providers (10.7%) reported engaging in formal mentoring (i.e., participated in ongoing, scheduled sessions with an identified AT mentor), with 66.8% stating it was “very helpful” and 31.3% stating it was “somewhat helpful” (0% reported formal mentoring to be “not very helpful” or “not at all helpful.”). On average, providers reported that in the past 3 years, they had engaged in formal mentoring for 47.5 hours with a standard deviation of 93.4 hours). A total of 397 providers (88.2%) reported engaging in informal

EI Provider Reports of Training



mentoring (i.e., consulted with other team members as needed), with 72.5% stating it was “very helpful” and 27.0% stating it was “somewhat helpful” (less than 1% reported informal mentoring to be “not very helpful” and 1% reported informal mentoring to be “not at all helpful.”). On average, providers reported that in the past 3 years, they had engaged in informal mentoring for 50.9 hours (with a standard deviation of 97.5 hours).

*Technology fairs/expos:* 74 (out of 450) providers (16.4%) reported attending a technology fair/expo, with 43.2% stating it was “very helpful” and 54.1% stating it was “somewhat helpful” (only 2.7% reported fair/expo to be “not very helpful” and 0% reported it to be “not at all helpful.”). On average, providers reported that in the past 3 years, they had attended technology fairs/expos for 12.7 hours (with a standard deviation of 13.2 hours).

**National document collection study**

Of the 50 states contacted, 28 states (56%) responded and 22 states did not respond. Of the 28 states who responded, 9 of these states reported they had no information on assistive technology trainings. A total of 102 documents were collected (i.e., website information, completed interview protocols, resource materials). Of these 102 documents, 20 documents (19.6%) were specific to the infant/toddler age group, 30 documents (29.4%) did not focus on the infant/toddler age group, 43 documents (42.2%) had a component focused on the infant/toddler age group, 4 documents (3.9%) were specific to preschool-aged children (ages 3-5), and 5

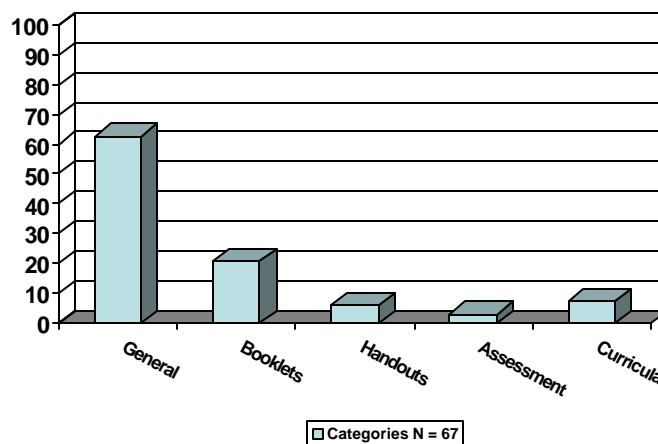
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Sawyer, B., Milbourne, S., Dugan, L., & Campbell, P. (2005). Report of assistive technology training for providers and families of children in early intervention, *Research Brief Volume 2, Number 1*. Tots n Tech Research Institute. Available from <http://tnt.asu.edu>.

documents (4.9%) did not specify a target age group. Documents that were not specific to infants/toddlers or did not specify a target age group were excluded from further analyses.

The 67 remaining documents were categorized into 5 types: (1) 42 documents (62.7%) were *general trainer/organization information* (i.e., website print-outs, phone/email communication, but no reference materials); (2) 14 documents (20.9%) were *informational booklets* (i.e., reference materials that individuals can use through self-study); (3) 4 documents (6.0%) were *handouts* (i.e., handouts associated with workshops/presentations, such as PowerPoint handouts); (4) 2 documents (3.0%) were *assessment tools* (i.e., tools for parents/providers to determine AT needs); and (5) 5 documents (7.5%) were *training curricula* (i.e., packaged materials instructors can use to deliver workshops/presentations).

Categories of Available Training Materials for AT Related to Infants and Toddlers



#### *Who provides trainings and training materials?*

A total of 37.3% of the 67 relevant documents were provided by states. Additionally, private organizations (e.g., nonprofits) provided 34.3% of these trainings and training materials, and universities provided 26.9% of the materials. It was not possible to determine the providers of 1.5% of the documents.

#### *Trainings and training materials are designed for whom?*

In the 67 documents, trainings and training materials targeted different audiences. (Please note trainings could be designed for more than one audience.) 70.1% of the trainings/materials were designed for use by both parents and providers, 6.0% for parents only, 19.4% for providers only, 4.5% for students (i.e., high school/college age), 11.9% for general consumers, 1.5% for administrators, and for 1.5% of the training/materials, a target audience could not be discerned.

*What is the focus of trainings and training materials?*

Tots n Tech Research Institute developed 4 focus categories. However, these categories were not mutually exclusive; trainings and materials could have multiple foci. Out of 67 documents, 29.9% focused on *monitoring and evaluations*. 79.1% focused on *specific AT devices and services*, 46.3% focused on *policies and procedures related to AT*, and 49.3% of trainings/materials focused on *funding for AT*. Of the 67 materials analyzed, 3.0% of trainings/materials focused on another category, such as community resources that parents/providers can access to learn more about AT.

*What is the purpose of trainings and training materials?*

The purpose of the training/materials was also not mutually exclusive; trainings/materials may have had multiple purposes. Out of 67 documents, the purpose(s) was (1) *awareness* for 89.6% (i.e., general knowledge presentation), (2) *skill-building* for 52.2% (i.e., trainings teach skills that participants will use but skill is not taught in context of implementation; e.g., learning how to adapt books in a make and take session), and (3) *improved implementation* for 34.3% (i.e., participants learn skills in context of service delivery; only applicable if method of training is mentoring and/or consultation). In 4.5% of trainings/materials, a purpose could not be identified.

*When workshops/presentations occur, what is their format?*

Forty-nine documents were further analyzed to determine the nature of workshops/presentations. Documents had to meet two criteria: (1) age focus of EI, potential EI, or preschool; and (2) coded as a training organization/center or training curriculum when classifying document type.

Five different methods of instruction or delivery were identified. Again, categories were not mutually exclusive, so trainings could have more than one method of instruction. Out of 49 documents, 65.3% were *didactic* (e.g., lecture), 67.3% were *hands-on/interactive* (e.g., make and take sessions), 32.7% were *consultation-based*, 6.1% were *mentoring-based*, and 6.1% were *self-study* (e.g., video, computer). For 14.3% of the trainings, the method(s) of instruction was not explained.

It was also of interest to discover the duration of trainings offered. Out of the 49 documents analyzed, 63.3% of them indicated *single session* trainings, *workshop series* were indicated in 34.7% of the documents, and *continuous or as needed* were indicated in 49.0% of the documents. It was not possible to determine the duration of trainings offered from 10.2% of the documents.

**Discussion**

The results of these related research studies indicate the need for increased training and reference materials which focus on AT for the infant/toddler population. Out of the 50 state contacts only 17 (34%) responded with information when asked about AT trainings in their respective states. After very careful and comprehensive data collection strategies, Tots N' Tech Research Institute found only 20 training curricula or training materials which focused on AT and infants/toddlers, with the majority of documents being applicable to a broad age group or targeted to school-age students. Most trainings were focused on general transference of knowledge about AT, and limited trainings focused on improving parents or providers' use of

AT in the context of service delivery. Findings from the document collection study are supported by the provider follow-up survey study. When we queried providers about their recent training experiences related to AT and infants and toddlers, providers reported little variability in the types of training accessed. Providers most frequently reported attending a workshop/presentation (71.3%) or collaborating with peers (i.e., informal mentoring; 88.2%). Approximately, one-third of providers reported engaging in self-study, via the Internet (33.3%) or with other reference materials (e.g., manuals, videotapes, CDs; 38.9). However, less than 20% of providers had attended a technology fair/expo (16.4%), taken a college course for credit (12.9%), or been formally mentored (10.7%). Clearly, parents and providers need more opportunities to gain knowledge about AT, such as the development of training and training materials which focus on best practices of AT use with infants and toddlers.

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