

Assistive Technology for Students With Disabilities: A Legal Analysis of Issues

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Abstract

Individualized Education Program (IEP) teams are required by the Individuals with Disabilities Education Act (IDEA) to consider a student's need for assistive technology (AT). Despite this legal requirement, AT supports are often not available to students with disabilities. Many students with disabilities and their families have addressed the failure to consider and provide AT supports through litigation. The purpose of this article is to examine the case law pertaining to the assessment, selection, and provision of AT learning supports for students with disabilities. A legal analysis was conducted to determine litigation themes. Based on these results, several recommendations for IEP teams are proposed.

Keywords

policy/legal, instructional/policy perspectives, qualitative research, methodologies, in-service teachers, professional development, assistive technology, technology perspectives

The application of assistive technology (AT) may support differentiating instruction (Claes, Van Hove, Vandeveld, van Loon, & Schalock, 2012) and enable students with disabilities to learn skills that are critical to academic and life success (Gillette & Depompei, 2008). Technology applications assist in creating universally designed learning environments for students with disabilities (Fitzgerald, Koury, & Mitchem, 2008). This universal design of learning involves a provision of multiple means of representation, action and expression, and engagement (Center for Applied Technology, 2011). Technology that assists in achieving those principles may promote access, participation, and progress for students with disabilities (McMahon, 2014).

The successful integration of AT supports has been reported for students with disabilities from early intervention (Campbell, Milbourne, Dugan, & Wilcox, 2006) through secondary transition (Houchins, 2009) to address a variety of student needs. AT has been utilized to improve their academic, communication, cognitive, and social skills for students with autism spectrum disorders (Virnes, Marna, & Vellonen, 2015). Video-based self-modeling has been successful in improving academic performance and addressing challenging behavior for these students (Yakubova & Taber-Doughty, 2013) as well as students with behavioral disorders (Clees & Greene, 2014). AT applications have increased the independence of students with intellectual disabilities (ID) through the use of auditory recorders (Bouck, Satsangi, & Muhl, 2013), the successful integration of augmentative and alternative communication (AAC; Fisher & Shogren, 2012), and computer-based visual schedules such as electronic photographic activity schedules (Douglas &

Uphold, 2014). Students with learning disabilities (LD) have increased access to academic, social, and extracurricular activities through the provision of AT (Dyal, Carpenter, & Wright, 2009) and have demonstrated increases in task attention and learning through the integration of technology such as electronic pens and iPads (Cumming & Draper-Rodriguez, 2013). Multimodal AT combining visual, audio, video, textual, gestural, and spatial modalities has increased access to the general curriculum and resulted in improvements in learning for students with disabilities (Bruce et al., 2013).

Given the potential of such AT applications to promote curricular access, participation, and educational progress for students with disabilities, IEP teams are required by the Individuals with Disabilities Education Act (IDEA) to consider a student's need for AT devices and services (20 U.S.C. § 1414(d)(3)(B)(v)). An AT device is defined as "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 a child with a disability" (20 U.S.C. § 1402(1)(A)). An AT service is one that directly assists a child with a disability in the selection, acquisition, or use of an AT device. These services include: (1) *an evaluation* of the AT needs of an individual with a

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disability; (2) purchasing, leasing, selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing of AT devices; (3) coordinating and using necessary therapies, interventions, or services with AT devices; (4) training or technical assistance for an individual with disabilities, or, where appropriate, the family members, guardians, advocates, or authorized representatives of such an individual; and (5) training or technical assistance for professionals (including individuals providing education and rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of individuals with disabilities (20 U.S.C. § 1402(2)). Additionally, federal regulations specify that each public agency shall ensure that AT devices or AT services or both are made available to a child with a disability if required for special education, related services, or supplementary aids and services (34 C.F.R. § 300.308).

The IDEA mandate confirms the potential of AT to assist individuals with disabilities to fully participate in education and eventually employment opportunities. Despite these legal requirements, studies show that AT supports are often not available to students with disabilities. For example, Bouck, Maeda, and Flanagan (2011) found that only about 8% of more than 300,000 students with high-incidence disabilities reported receiving AT in school and even less upon graduation. Other studies have concluded that AT is underutilized, particularly for students with low-incidence disabilities, and available more often in restrictive rather than inclusive settings (Quinn et al., 2009). The consideration of AT supports by IEP teams may be limited by several factors. Educators report limited knowledge of specific AT uses and functions, a limited understanding about how technology may be used by students in school, and a low rate of participation in AT decisions (Okolo & Diedrich, 2014). Lack of teacher competency and proficiency for AT integration limits an adequate consideration of AT supports. The cost of AT devices, time for evaluation and implementation, and staff training are also factors (Day & Huefner, 2003). Funding has been identified as a significant barrier to AT integration (Kemp, Parette, & Hourcade, 2001). The lack of support, time, and resources from school leaders further limits the integration of AT (Schoepp, 2005). The gap between the potential of AT to support learning for students with disabilities and the actual provision of AT supports is substantial (Edyburn, 2013).

Many students with disabilities and their families have addressed the failure to consider and provide AT supports through litigation. The purpose of this article is to examine the case law pertaining to the assessment, selection, and provision of AT learning supports for students with disabilities. What are the issues involved in these AT cases? What were the legal standards applied to the decisions? Did students with disabilities and their families prevail in securing AT supports?

A legal analysis of administrative due process hearing decisions and judicial court decisions involving AT was conducted to determine litigation themes in response to these questions. Following the analysis, recommendations to IEP teams regarding the assessment, selection, and provision of AT are offered.

Hopefully, both the analysis and the recommendations will assist IEP teams in determining appropriate AT devices and services for students with disabilities.

Method: A Legal Analysis

The legal analysis was conducted to identify themes pertaining to the assessment, selection, and provision of AT devices and services. The cases were obtained through a search of the Labor Relations Press (LRP) database. This database includes reports of hearings from state-level administrative due process hearings (e.g., state education association hearings) as well as decisions from district courts, appellate courts, and the U.S. Supreme Court. These decisions are published in the *Individuals with Disabilities Education Law Reporter*, the *Early Childhood Law and Policy Reporter*, and the *Education Law Reporter*. The database was searched from 2001 through 2015 for cases in which the assessment, selection, or provision of AT was an issue, extending the litigation analysis from 1997 to 2001 conducted by Day and Huefner (2003) reported in *Journal of Special Education Technology*.

The inclusion criterion for this analysis was if the assessment, selection, or provision of AT as learning supports for students with disabilities in educational settings was an issue of the case. Excluded from the analysis were cases involving prosthetics, equipment, surgical devices such as cochlear implants, or device maintenance. Also excluded were non-IDEA cases (e.g., Section 504 with Office of Civil Rights (OCR) rulings, Americans with Disabilities Act (ADA) cases) so that only cases involving the IDEA mandate to consider AT supports were sampled. Cases from the topical index search were cross-referenced with the cases from the key word search, yielding a total of 42 cases. This purposive sample enabled an examination of legal issues pertaining to the assessment, selection, or provision of AT in response to the IDEA mandate.

Sample

The cases sampled involved students described by age or grade and primary disability, which included autism ($n = 6$), LD ($n = 4$), ID ($n = 2$), multiple disabilities ($n = 14$), students with other health impairments or attention-deficit/hyperactivity disorder ($n = 4$), hearing impairments (HI; $n = 3$), speech-language deficits ($n = 1$), visual impairments ($n = 1$), and not provided ($n = 7$).

Data Analysis

A qualitative, interpretive content analysis was the method employed (Krippendorff, 2004). This iterative process involved segmenting each case reviewed into initial codes, which were further refined to categories and themes through inductive analysis and a constant-comparative examination (LeCompte & Preissle, 1993; Lincoln & Guba, 1985; Patton, 2001). A three-tiered analysis procedure that followed procedures for open and axial coding (Corbin & Strauss, 2008) was

employed to analyze the data and sort data for convergence of categories and themes. First, an open coding processing was used to break down and segment data (Corbin & Strauss, 2008; Marshall & Rossman, 2011). Each case was read by the author who identified key words and phrases concerning the assessment, selection, and provision of AT in educational settings and assigned initial codes. Second-tier coding involved organizing the initial codes into categories. The data were analyzed using content analysis to look for pattern matching (Corbin & Strauss, 2008; Marshall & Rossman, 2011). After repeated reading of the cases, certain core categories emerged. The third tier of the iterative process involved both an examination of existing categories and/or a modification of existing themes. This process, described as axial coding, analyzes the data with reference to the research focus and establishes final themes that have emerged throughout the analysis. The themes from the second-tier analysis were maintained through the third-tier process with expanded titles. Cases included in the analysis are presented in Table 1.

Results

Five themes emerged from the analysis. The first theme revealed that the failure to consider the need for AT denied students the right to a free, appropriate public education (FAPE).

A Mandate to Consider AT

Five of the cases found that the failure to consider the need for AT denied students FAPE, a right guaranteed by the IDEA. The cases reveal two conditions that should have alerted school districts to the need to consider AT supports. First, parents requested or informed schools of the students' need for AT. Parents based their requests on evidence of student progress with AT devices outside of school or from the results of independent educational evaluations (IEE). In *Oskaloosa County School District* (2014), *North Hills School District* (2014), and *Newport-Mesa Unified School District* (2013), parents informed school districts of student progress with AT devices outside of the school setting. In *Newport*, parents also provided the school district results of an IEE recommending AT supports. These requests and reports should have alerted school districts to consider the need for an AT assessment. Second, school districts failed to consider a student's need for AT supports despite a clear lack of academic progress and/or declining achievement. Limited progress on communication skills (*North Hills, Newport*) and declining grades (*Kevin T. v. Elmhurst Community School District*, 2002) convinced courts and hearing officers that the school districts' failure to consider the student's need for AT denied FAPE.

This failure to consider a student's need for AT despite parental notice and evidence of limited academic progress resulted in costly consequences for school districts. Orders for AT evaluations, compensatory education (*North Hills, Newport*), tuition reimbursement (*Kevin*), and student or staff

training (*Oskaloosa, Newport*) were costly results for a school district's failure to consider a student's need for AT supports.

The Adequacy and Scope of the AT Assessment

The second theme from the data analysis revealed that AT evaluations must be adequate, timely, and sufficient in scope in order to survive judicial scrutiny. While no federal regulations specify the content of an AT assessment or who should conduct it (*Clark County School District*, 2011), Office of Special Education Programs (OSEP) has opined that a district's evaluations for eligibility must include a consideration of AT and that the evaluation "should provide sufficient information to permit the IEP team to determine whether the student requires AT devices or services in order to receive FAPE" (*Letter to Fisher*, 1995). In the following cases, district AT evaluations were not conducted when required, were not conducted prior to the provision of AT devices, did not include parental input, and/or did not involve an assessment of the student's access and use of various AT devices.

In *Clark County School District* (2013), the school district failed to conduct a formal AT evaluation to determine a child's needs, even though AT had been identified as a need on the previous IEP. The district had provided "low-tech" devices but failed to sufficiently assess AT needs. In *Clark County School District* (2011), no evaluation was conducted prior to providing the AAC devices and the student's responses were inconsistent resulting in minimal benefit. The district was ordered to obtain the services of an expert on AT and AAC to evaluate the student and match the student's needs with appropriate devices.

The district's failure to conduct a comprehensive AT evaluation that included an assessment of the student's use of possible AT devices resulted in student reluctance and resistance to use the devices and minimal educational benefit (*Antelope Valley Union High School District*, 2010). Without a sufficient AT evaluation focused on the student's use of the AT to access curriculum, the IEP team could not adequately address the student's AT needs. A similar result can be found in *School Board of Independent School District No. 11, Anoka-Hennepin v. Pacht* (2002), where the timing and conduct of the AT evaluation were flawed. The AT evaluation failed to expose the student to AT devices in the student's customary environment of home, school, and community to determine which would be appropriate. No parental input was included in the evaluation. The consequences for the inadequacy of insufficiency of district AT evaluations included orders for independent AT evaluations and compensatory education.

In cases where the districts' AT evaluations were determined to be adequate, the evaluations utilized appropriate measures (*Houston Independent School District*, 2000), assessed the need for AT across all areas affected by the disability (*A.L. v. Chicago Public School District No. 299*, 2011), and assessed the student's use of various devices (*Montgomery County Public Schools*, 2014).

Table 1. AT Cases.

Case	Student Data	Issue	Decision
<i>Ada-Borup Independent School District #2854 (2007)</i>	Eight-year-old M with ID and SLD	P alleged denial of FAPE since SD did not provide training on AT device. SD provided AT training manual.	For P: Providing AT device and instruction book failed to assure S could correctly use and benefit from device.
<i>A.L. v. Chicago Public School District No. 299 (2011)</i>	Ninth-grade F with mild cognitive impairment	P argued AT assessment flawed in failing to recommend hardware and software to assist with writing and comprehension.	For SD: AT evaluator identified S needs and determined AT would not minimize S's writing deficits or increase comprehension. S would not receive benefit from AT
<i>Anoka-Hennepin Independent School District #011 (2007)</i>	Seventh-grade M with LD and OHI	P claimed SD failed to provide home and school computer and supporting programs necessary for FAPE. SD argued that needs had been met with school equipment.	For SD: No evidence S required computer at home for FAPE. SD advised to conduct AT evaluation to ascertain AT needs.
<i>Antelope Valley Union High School District (2010)</i>	Nineteen-year-old M with SLD	SD decided AT (overlays and Alpha Smart) with out evaluation; blamed S for nonused due to resistance and lack of motivation.	For P: Failure to conduct comprehensive AT evaluation when needed denied FAPE. IEE for AT ordered and to include S use and access of AT; strategies to utilize AT
<i>A.S. and W.S. v. Trumbull Board of Education (2006)</i>	Twelve-year-old F with LD and seasonal allergies; 9-year-old M with OHI and allergies	P requested district provide certain devices recommended by private consultant. SD incorporated some, but not all, of recommendations preferring "low-tech" tools.	For SD: Program offered would provide benefit to student and included many of the parent-preferred devices.
<i>Bethel Local School District (2012)</i>	Fifth-grade F with HI	P claimed SD violated IDEA by failing to train T on how to use closed captioning technology since IEP specified training would be provided.	For SD: Ts provided general in-service but not trained in closed captioning which was AT in IEP. Some of Ss Ts did not use closed captioning since not trained, but that did not result in IEP implementation failure. SD ordered to provide training as CAP.
<i>Board of Education of the City School District of the City of New York (2000)</i>	Thirteen-year-old F with HI	P requested reimbursement for private school placement due to heightened sensitive to noise. SD proposed regular classroom with FM amplification system with behind-ear device, auditory training, and speech reading.	For SD: S could be trained to use FM system only in setting where sensitivity heightened and to adjust hearing aids to screen out certain ranges. Regular placement with AT was LRE.
<i>Carlsbad Unified School District (2012)</i>	Nine-year-old M with autism	P requested iPad to assist S to initiate social interactions with peers. S had IEP social skill goal and P argued iPad needed to implement that goal.	For SD: S used iPad previously since nonverbal but now speaking. Use of scripts to improve social skills more effective, accessible, and less distracting than iPad. Method for achieving goals not required on IEP.
<i>C.B. v. Pittsford Central School District (2010)</i>	Ninth grader with LD	S's inconsistent use of word processor. P claimed SD did not implement or train teachers.	For SD: S resistance to use AT due to self-consciousness. FAPE provided.
<i>Chaffey Joint Union High School District (2012)</i>	Sixteen-year old M with autism	S's used weighted pen, ruler, math manipulatives, keyboard, and highlighted paper as AT. P requested iPad for schoolwork, homework, and during bus ride.	For SD: No evidence S required iPad to communicate, socialize, or control behavior on bus. S did not require iPad for school or homework since progressing on all goals. No evidence iPad would increase, maintain, or improve S's functional capabilities or assist him or her from benefiting from specialized instruction.

(continued)

Table 1. (continued)

Case	Student Data	Issue	Decision
<i>Clark County School District (2011)</i>	Seven-year-old with ID	S had goal to use AAC. Inconsistent success and minimal benefits with AAC (Big Mac and One Step) provided with out sufficient evaluation.	For P: SD ordered to conduct AT/AAC evaluation with expert who will assess with appropriate devices.
<i>Clark County School District (2013)</i>	Eight-year-old with MD	Need for AT in S's previous IEP but SD did not assess. PEC and real objects not effective in improving communication.	For P: SD failure to conduct timely and sufficient AT evaluation denied FAPE.
<i>Collier County School Board (2005)</i>	Sixteen-year-old M with ADHD and giftedness	P requested ITablet device since school-proposed device would negatively impact social interactions (paper-based day planner and notebook computer, and later replaced the notebook with a lighter, smaller Dana device).	For SD: ALJ found that P had no right to compel provision of particular device. School-offered device would permit student to progress toward IEP goals and prepared student for school and post-school environments.
<i>Cupertino Union School District (2011)</i>	Nine-year-old M with autism	P argued goals inappropriate since did not provide alternative means of communication, such as iPad. SD did provide iPad but S lacked dexterity and cognitive ability to use it. PEC system and visual schedule provided.	For SD: Evidence showed S made progress on communication goals with SD-selected communication supports.
<i>East Whittier City Elementary School District (2000)</i>	Nine-year-old F with OHI	P requested laptop computer with voice output for home and school use in order to achieve objectives. SD maintained that desktop computers with voice output and Alpha Smart could meet S needs.	For SD: Evidence did not confirm S's need for laptop nor that AT services must be provided at home to achieve FAPE.
<i>El Paso Independent School District (2002)</i>	Twenty-year-old M with TBI, SI, and OHI	P alleged SD failed to implement AT (PEAT software designed to assist people with TBI in planning and remembering daily activities. The software notifies the user of scheduled activities, including taking medication and other daily events) and failure to train S, parent T, and job coach. SD claimed purchasing, scheduling, and technical difficulties.	For P: HO found failure to train resulted in minimal benefit to S.
<i>Eric H. v. Methacton School District (2003)</i>	Nine-year-old M with acute lymphoblastic leukemia (OHI)	P requested VTC during periods of home bound instruction to insure LRE. SD attempted VTC, but S did not progress on social behavior goals and VTC was disruptive to class.	For SD: While home bound placement was more restrictive, S's behavior deterioration and classroom disruption as result of VTC supported decision not to provide as AT
<i>Flour Bluff Independent School District (2002)</i>	Twenty-year-old F with OHI	P requested large-print text for taking the Texas Assessment of Academic Skills tests. SD determined S did not meet eligibility criteria for VI, and the IEP did not provide for large-print accommodations.	For SD: No provision in IEP for large-print materials. S not entitled to accommodation of large-print test during testing.
<i>Fort Bend Independent School District (2001)</i>	Fifteen-year-old M with ADHD	P requested SD provide computer program with acoustically modified speech to address language-processing problems. SD argued S progressed under services provided (typing tutor program, an electronic speller, and a computer class).	For SD: While acoustic computer program may have helps S and may have been the best program, SD program conferred educational benefit. P request denied.

(continued)

Table 1. (continued)

Case	Student Data	Issue	Decision
<i>Glendora Unified School District (2007)</i>	Fifteen-year-old M with HI	P argued that SD failure to conduct AT evaluation denied LRE. P requested CART: CART is a computer-aided transcript device that converts typing from a stenographic machine into text displayed on a computer screen in "real time."	For P: S was isolated from peer by FM device needed to hear teacher. AT would permit student to participate with in social context of classroom. Denial of AT evaluation twice and unilaterally by SD director violated IDEA.
<i>Hillsboro School District I J (2014)</i>	Fourteen-year-old S with LD	P requesting iPad, alleging that had been provided in former IEP. SD provided Evernote phone application which served similar purpose.	For SD: Since IEP did not specify AT device, SD has discretion to select. SD AT evaluation confirmed appropriateness of AT device.
<i>Houston Independent School District (2000)</i>	NP	P refused to consent to AT evaluation since proposed assessment materials were not validated. SD argued that since no standardized tests were to be included in AT evaluation, validation standard not applicable.	For SD: Selection of assessment materials is discretion of school district personnel. Other evaluation measures selected by school district appropriate.
<i>In re: Student with a Disability (2012a)</i>	Ninth-grade M as EI	IEP specified computer, calculator, iPod, Classmate Reader, and Dragon Speak as AT devices to be provided as appropriate. S also NIMAS-eligible. & get tests in accessible formats from Bookshare.	For P: AT not provided in timely manner. While SD attempted alternative accommodations (reading chapter to him; mp3 files) failure to provide AT deprived S of educational benefit. Compensatory education ordered.
<i>In re: Student with a Disability (2012b)</i>	NP	S provided Fusion writer, a word processor with text-to-speech features to create legible sentences with fewer errors. SD considered AT a "benefit" but not needed as an IEP component.	For P: Despite IEP conclusion that S did not require AT, the device enabled S to participate in general curriculum. IEP should indicate S need for AT.
<i>In re: Student with a Disability (2011)</i>	Seventh-grade student with SLD	P requesting preferred AT software. Fast ForWord is a computer program containing acoustically modified speech that slows down individual speech sounds and then gradually speeds them back to a normal rate.	For SD: Fact that S might obtain greater benefit not relevant as long as FAPE provided. S progress "slow but steady."
<i>Jefferson County School District R-1 (2001)</i>	Sixteen-year-old M with physical disabilities and dysgraphia	P requested home computer to meet S's writing needs. SD argued S could complete work with access to school computers with writing software.	For SD: P request was "want" not "need;" S could receive FAPE with access to school computers.
<i>Kevin T. v. Elmhurst Community School District No. 205 (2002)</i>	Nineteen-year-old M with MD (ADHD LD, bipolar)	P claimed SD failed to consider and provide AT, unilaterally placed and requested reimbursement. SD claimed IEP appropriate.	For P: Witness testified AT should help with S's poor academic performance but SD did not discuss, consider, or provide AT.
<i>Los Angeles Unified School District (2012)</i>	Seven-year-old with hydrocephalus	P requesting touch screen tablet to enhance written production.	For SD: SD provision of manipulative provided more benefit than touch screen following trials.
<i>Los Angeles Unified School District (2011)</i>	Nineteen-year-old M with CP, MR, asthma, seizures, and DD	P requested iPad2. SD determined SpringBoard dynamic interface would enable S to communication, access curriculum and express needs.	For SD: SD not obligated to provide the most technologically advanced AT device. SD device enabled S to make progress.
<i>Los Angeles Unified School District (2006)</i>	Fourteen-year-old F with cerebral palsy, scoliosis, mental disabilities, visual impairments, and speech/language impairments.	P requested motorized wheelchair with a stander to assist student both in and out of school. SD asserted stander and lifter were sufficient.	For SD: ALJ determined that provision of stander and lifter enabled the student to access education program and receive FAPE.

(continued)

Table 1. (continued)

Case	Student Data	Issue	Decision
<i>Milan Community Schools (2012)</i>	NP	Ss IEP called for electronic tablet for bus ride due to behavioral problems. Superintendent decided AT no longer needed since bus peer involved in behavior problems transported by P.	For P: Modification of provisions of IEP may only be made by entire IEP team.
<i>Minneapolis Special School District #001 (2013)</i>	HS with ND disability	P claimed SD failed to implement the agreed-upon AT in the IEP (CHAT-PC M3+).	For P: SD failure to determine how predictive language software integrated into curriculum to train staff denied FAPE.
<i>Montgomery County Public Schools (2014)</i>	Second grader with VI	P requested IEE to determine need for tablet computer.	For SD: AT evaluation appropriate; SD provision of AT provided benefit. AT assessment included P input and exposed S to various devices.
<i>Newport-Mesa Unified School District (2013)</i>	Six-year-old with autism	S making limited progress with PEC system but showing benefit in and out of school with iPad.	For P: Awareness of iPad success and IEE recommendation should lead SD to consider that as AT.
<i>North Hills School District (2014)</i>	First grader with autism	P requested iPod, iCommunicate, and iPad. SD failed to include AT assessment in evaluation.	For P: S's significant communication needs and limited progress and demonstrated use of AT outside of school—warranted AT consideration. AT evaluation ordered and S provided compensatory education.
<i>Okaloosa County School District (2014)</i>	NP	SD provided word processing software to S but not included in IEP. Despite S need and P notice, SD failed to consider AT.	For P: SD ordered to provide staff training re: AT.
<i>Prince George's County Pub. Schs. (2000)</i>	High school F with undisclosed disabilities	P filed complaint that SD discriminated against daughter by failing to provide AT during high stakes test.	For P: SD agreed to provide AT accommodations during test, including use of DynaVox.
<i>R.P. v. Alamo Heights Independent School District (2012)</i>	Ten-year-old with autism, ID, and SLD	S made slow process with PEC but later AT evaluation showed need for voice output.	For SD: Selection of alternative AT devices did not render previous supports inappropriate, as student made progress and provided benefit. AT.
<i>School Board of Independent School District No. 11, Anoka-Hennepin v. Pacht (2002)</i>	Ten-year-old F with DD	P requested AT evaluation. SD conducted with out P input or exposing S to devices in customary environments to determine appropriateness. P obtained IEE recommending Tech/Speak.	For P: P request and IDEA duty to determine AT needs required sufficient AT evaluation.
<i>School District of Philadelphia (2014)</i>	Ninth grader with autism and SLD	T loaned S laptop awaiting AT but insufficient training on how to integrate.	For P: 6-month delay in providing AT denied FAPE.
<i>Sherman v. Mamaroneck Union Free School District (2003)</i>	Eleventh-grade M with LD in math.	P requesting new model of calculator for more complex math problems. SD teachers argue new model eliminates factoring steps student is capable of demonstrating and necessary in courses.	For SD: Failure to provide parent-requested calculator not responsible for student's failing grades but rather his or her lack of effort. Current model of calculator appropriate for math course and concepts.
<i>Smith v. District of Columbia (2012)</i>	NP	P requested laptop and educational software recommended in AT evaluation. SD argued S showed slow but steady process with access to computer, calculator, Fusion Writer, Read Outloud, and Draft Builder software (V1.0. Available through Don Johnston Inc. http://www.donjohnston.com/).	For SD: SD not required to maximize S potential; S received educational benefit with out AT.

(continued)

Table 1. (continued)

Case	Student Data	Issue	Decision
<i>Tuscaloosa City Board of Education</i> (2000)	Fifteen-year-old M with SI	P requested upgrade of AT from Superhawk to Dynavox. SD argued student making progress and receiving benefit.	For SD: S progress demonstrated FAPE. Convinced SD would upgrade when student exhausted capacities of current AT.
<i>Warren County School District</i> (2001)	Eleven-year-old F with autism and MD	P objected to behavior management plan with isolation and plans for self-contained placement due to behavioral deterioration. SD recommended more restrictive placement in response to deteriorating behavior.	For P: SD ordered to hire educational consultant to develop behavior plan and to incorporate AT evaluation recommendations in that plan.

Note. M = male; F = female; P = parent; S = student; ID = intellectual disabilities; SLD = speech-language deficits; FAPE = free, appropriate public education; SD = school district; AT = assistive technology; LD = learning disabilities; OHI = other health impairments; HI = hearing impairments; IDEA = Individuals with Disabilities Act; FM = frequency modulation; LRE = least restrictive environment; AAC = augmentative and alternative communication; MD = multiple disabilities; TBI = traumatic brain injury; NP = not provided; ADHD = attention-deficit/hyperactivity disorder; CP = cerebral palsy, MR = mental retardation; DD = developmental disability; HS = high school; VI = visual impairments; IEE = independent educational evaluations; CART = Communication Access Real-Time Translation; VTC = video conferencing; PEC = Picture Exchange Communication; T = teacher; IEP = Individualized Education Program; CAP = corrective action plan; ALJ = Administrative law Judge; SI = Speech Impairment; HO = Hearing Officer; EI = Eligible Individual; NIMAS = National Instructional Materials Accessibility; ND = non-disclosed; PEAT = Planning and Execution Assistant and Trainer.

AT discontinuation. Just as an AT evaluation confirms a child's need for AT devices and services, an AT evaluation must confirm when discontinuation of those services is warranted (20 U.S.C. § 1414(c)(B)(iii)). In *Milan Community Schools* (2012), a superintendent decided that the IEP provision of an electronic table to a student with behavioral problems on bus trips could cease, since the peer involved in the behavioral incidents had been removed from the bus. The complaint officer noted that changes to the provision of AT must be based on the consensus of the IEP team and ordered the school district to convene the team to determine the need for the AT device.

The cases included in this theme reveal that district AT evaluations must be adequate, timely, and sufficient. Parental consent must be obtained prior to the AT evaluation, parental input must be solicited in the evaluation, and the need for AT must be assessed in all areas of student need. The AT evaluation must utilize appropriate measures and may require exposing the child to devices and determining access and appropriateness. The AT evaluation confirms the need for devices and services, as well as decisions to discontinue or modify AT devices or services.

Appropriate Versus Best AT

The cases informing the third theme held that the provision of AT devices and services must be appropriate and beneficial to the student. School districts were not required to provide the best or most technologically-advanced devices but rather AT that permitted the student to benefit from the educational program. In a decision from the Sixth Circuit determining the appropriateness of a district's program, a *Cadillac v. Chevy* analogy was proposed. While parents might request "Cadillac" services for their child, the district's duty was to

provide an IEP reasonably calculated to provide educational benefit—the "Chevy" model of services (*Doe ex rel. Doe v. Bd. of Ed. Tullahoma City Schools*, 1993). The results confirmed this legal standard.

In several cases, parental requests for alternative AT devices were denied if district-selected AT devices resulted in educational benefit for students. In *R.P. v. Alamo Heights Independent School District* (2012), the greater progress made by a student with a voice output device did not render the previous provision of AT inappropriate, since the student received academic and nonacademic benefit with previous AT. In *Tuscaloosa City Board of Education* (2000), a parent's requested to upgrade the AAC from Superhawk to Dynavox. Persuaded by testimony from nearly all witnesses of the child's progress using the Superhawk, the hearing officer concluded that the student had received and would continue to receive educational benefit with the Superhawk.

In *Smith v. District of Columbia* (2012), the school district did not have to provide the parent-requested laptop, since supports provided to the student resulted in meaningful educational benefit. In *Chaffey Joint Union High School District* (2012), *Cupertino Union School District* (2011), *Carlsbad Unified School District* (2012), and *Hillsboro School District 1 J* (2014), the parents' request an iPad was denied, since district-provided supports were appropriate and the students were progressing in all IEP goal areas. Similarly, an expert evaluator's careful assessment for and selection of an AT device defeated the parents' request for an iPad 2 (*Los Angeles Unified School District*, 2011). The evaluator programmed the device and trained the student, parent, and teachers to ensure the student received benefit. The district-selected device met the student's needs.

Despite parents' request for a touch screen tablet to enhance written production, the district's selection and provision of

classroom manipulatives (*Los Angeles Unified School District*, 2012) and Dana devices (*Collier County School Board*, 2005) were reasonably calculated to provide the students with educational benefit.

Similarly, the parent-preferred Fast ForWord software (Fast ForWord available from Scientific Learning <http://www.sci-learn.com/>) was viewed as a Cadillac and not the only AT able to address the student's needs and improve reading skills (*In re: Student with a Disability*, 2011; *Fort Bend Independent School District*, 2001). In *Sherman v. Mamaroneck Union Free School District* (2003), the parent's request for a calculator which can do factoring was denied, since the district's calculator enabled the student to benefit and progress toward meeting IEP academic goals. In *Los Angeles Unified School District* (2006), an ALJ determined that the provision of a stander and lifter enabled the student to access educational programs and receive FAPE. The parent's request for a motorized wheelchair was denied.

In other cases, parents prevailed when school districts delayed or failed to provide the agreed-upon AT supports (*In re: Student with a Disability*, 2012a; *Warren County School District*, 2001). Delays or failure to provide AT supports specified in an IEP resulted in costly consequences for school districts.

Extending AT to home: Want versus need. While students may benefit from access to AT home, only those who require home AT to achieve FAPE are entitled to district-funded devices. In *East Whittier City Elementary Sch. District* (2000), the student was provided a variety of accommodations and AT devices including access to desktop computers in general education, special education resource rooms, and the library. She was also to be provided a hand portable word processor, Alpha Smart, to assist in word processing and writing output. Although the parent requests AT supports be provided at home, a hearing officer held that the provision of AT at home was not required for FAPE. Similarly, in *Jefferson County Sch. Dist. R-1* (2003), when a parent requested that her son be provided a computer at home, the school district refused noting he could complete assignments and progress toward IEP goals while at school. In these cases, specifying the use of AT in a home location was not deemed necessary to provide the student with a FAPE.

These cases illustrate that while school districts are not responsible to provide Cadillac services, the AT must be reasonably expected to confer meaningful educational benefit. While certain AT may be optimal, the school district's responsibility is to select and provide AT that will be appropriate and beneficial to the child.

Provision Alone and the Failure to Train

Failure to provide training so that AT may be incorporated into the curriculum to meet the student's needs, to sufficiently inform staff of their AT implementation responsibilities, or to monitor that implementation may implicate the provision of FAPE. The IDEA definition of AT services includes the

training or technical assistance for an individual with disabilities, or, where appropriate, the family members, as well as professionals providing education and rehabilitation services (20 U.S.C. § 1402(2)). Several cases revealed that district's failure to adequately train students, parents, or school personnel on how to integrate AT into the curriculum denied FAPE.

In *School District of Philadelphia* (2014), unfamiliarity with how to design educational applications with the AT for a student coupled with the failure to train the therapists and aide denied FAPE. Two school districts in Minnesota violated the requirement to train. In *Minneapolis Special School District #001* (2013), the failure to describe how a computer with predictive language software would be incorporated into the student's curriculum, to sufficiently inform staff of their AT implementation responsibilities, and to train them in how to adapt the AT to meet the student's needs resulted in the denial of FAPE. The district was ordered to provide the student with compensatory education and provide AT training to the staff. Another district failed to provide training to ensure the student used the AT device appropriately and would benefit from its use (*Ada-Borup Independent School District #2854*, 2007). While the instruction manual for the AT was shared with the parent and student, no training was provided. Absent such training, the school district denied FAPE.

A similar conclusion was reached in *El Paso Independent School District* (2002). A student required a laptop, a handheld computer and PEAT organizational software (available from QUADADAPT Adaptive Access Solutions <http://www.quadadapt.com/home.html>). While training with the PEAT was planned and documented in the IEP, the training was not provided and the benefit the student received was minimal. In *Bethel Local School District* (2012), parents claimed the school district violated the IDEA by failing to train teachers on how to use closed captioning (CC) for a fifth grader with a HI. Although several teachers did not use CC since they were not trained, that absence did not result in a failure to implement the IEP, even though CC was included as AT. However, the district was ordered to provide the teachers with training in CC.

These cases reveal that unless adequate training on the AT device is provided, AT may not be appropriate or beneficial to students. Absent sufficient training, AT supports may be underutilized.

AT to Achieve the Least Restrictive Environment (LRE) Mandate

This theme emerged from several case decisions revealing that AT may be required to meet the requirements of the LRE mandate. Consideration of AT to promote more inclusive placements was a duty allocated to school districts under IDEA.

In *A.S. and W.S. v. Trumbull Board of Education* (2006), the acceptability by peers of low-tech tools enhanced education in the LRE. Although the parents preferred alternative AT devices, the students were able to make the educational

progress in the LRE that the IDEA requires with the district-proposed AT.

In *Glendora Unified School District* (2007), failure to evaluate a child's need for a Communication Access Real-Time Translation (CART) in order to hear and participate in class discussion violated IDEA requirements to educate students in the LRE. Without consideration of the device, the student did not have access to the general curriculum and was only able to receive a portion of the class via a frequency modulation (FM) amplification system. Rather than isolated room his nondisabled peers and by the limits of the FM system, CART facilitated education in the LRE.

The selection of AT should support placement in LREs. AT may be a support provided in regular education classrooms "to enable children with disabilities to be educated with non-disabled children to the maximum extent appropriate" (20 U.S.C. § 1402(22)).

Summary and Recommendations for IEP Teams

The rights afforded students with disabilities via the IDEA include an IEP team consideration of the need for AT (20 U.S.C. § 1414(d)(3)(B)(v)). The duty to consider a student need for AT supports requires the IEP team to decide if an AT evaluation is warranted. The question that guides that decision to evaluate is not "wouldn't it be nice?" to provide AT, but rather "must AT be provided to secure FAPE?"

The appropriateness component of FAPE is achieved when the IEP has been reasonably calculated to "confer some educational benefit" (*Board of Education of the Hendrick Hudson Central School District v. Rowley*, 1982). Circuit courts have held that the benefit does not have to be a Cadillac (*Doe v. Board of Education of Tullahoma City Schools*, 1993) or "maximum" (*Kerkam v. McKenzie*, 1988) but must be "more than de minimis" (*Polk v. Central Susquehanna Intermediate unit 16*, 1988) and of "significant value to the child" (*J.S.K. v. Hendry County School Board*, 1991). So how should IEP teams decide if AT is necessary for a child to benefit from the educational program constructed in the IEP? What data would suggest that AT evaluation is warranted?

The First Circuit in *Lessard v. Wilton-Lyndeborough Cooperative School District* (2010) held that "appropriate" depends on expert judgment and indications of progress. Those data sources should guide the decision whether or not to conduct an AT evaluation. Do teachers, related service personnel, administrators, parents, and—as appropriate—the child believe an AT evaluation should be conducted to assure an appropriate, beneficial education program is provided? Do the indicators of progress suggest the need for an evaluation of AT supports? IEP teams must discuss any lack of expected progress toward the annual goals and in the general education curriculum (20 U.S.C. § 1414(d)(4)(A)(ii)(1)). IEP teams should examine the progress monitoring data for annual goals to ascertain if the lack of progress might be addressed with AT supports. For

example, in *North Hills School District* (2014), the student's significant communication needs coupled with limited communication progress convinced an independent Hearing Officer (IHO) that an AT evaluation was warranted, although the school had failed to conduct that assessment. In *Newport-Mesa Unified School District* (2013), the student's limited progress with a district-selected approach convinced an ALJ that AT was needed to develop communication. Conversely, the evidence of progress in the *Cadillac v. Chevy* cases was determinative in distinguishing when AT requests were a "want" and not a "need." In addition to examining student progress, IEP teams must consider "outside" data, both from IEE (cite law) and a student's nonschool use of AT. Such consideration may confirm the need for an AT evaluation in order to determine if AT supports are necessary in providing FAPE.

Further, IEP teams are directed to educate students with disabilities in the LRE through the provision of supplementary aids and services (20 U.S.C. § 1412(a)(5)). The term supplementary aids and services means, aids, services, and other supports that are provided in regular education classes or other education-related settings, and in extracurricular and nonacademic settings, to enable children with disabilities to be educated with nondisabled children to the maximum extent appropriate (20 U.S.C. § 1402(33)). Two recent cases, *Penn-Trafford School District* (2015) and *In re: S with a Disability* (2014), found that the failure to explore supplementary aids and services resulted in more restrictive placements and violated the IDEA. An AT evaluation could explore a variety of supports to achieve the LRE mandate for inclusive placements.

If an IEP team determines that an AT evaluation is warranted, the next step is to select an assessment protocol which is technically adequate and sufficient in scope. The AT evaluation should align with the IDEA requirement to use a variety of tools and strategies (20 U.S.C. § 1414(b)(3)). IEP teams should select assessment models that guide them in understanding the complex interactions between a child's abilities, goals, and available AT (see Desiden, Roentgen, Hoogervent, & de White, 2013). Guidelines from the quality indicators for AT (Zabala et al., 2000) may assist. If the AT evaluation confirms that devices and services are determined necessary to achieve a FAPE, the IEP team should include those supports in the IEP and annually review the provision of these supports. The consideration and provision of AT supports may enhance curricular access, participation, and educational progress for students with disabilities.

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