

# The “Discrete Trials” of Applied Behavior Analysis for Children with Autism:

## *Outcome-Related Factors in the Case Law*

Claire Maher Choutka, Patricia T. Doloughty, and Perry A. Zirkel, *Lehigh University*

This study provides an analysis of case law concerning applied behavior analysis (ABA) for students with autism to determine outcome-related factors. The authors classified the 68 pertinent hearing/review officer and court decisions published in EHLR (*Education for Handicapped Law Report*) and IDELR (*Individuals with Disabilities Education Law Report*) into 2 groups representing the central issues of contention between parents and districts—program selection (e.g., instructional approach) and program implementation (e.g., its location, duration, or frequency). For both groups, the outcomes, in terms of who won, did not favor either parents or districts. The three factors predominantly associated with wins by either party for both groups of decisions were testimony of witnesses, documentation of progress, and Individualized Education Program elements.

It is indisputable that the identification of autism is significantly on the rise. Concomitantly, there has been a steady and steep increase in autism litigation (Zirkel, 2001). The most controversial segment of this litigation, which focuses on the appropriateness of applied behavior analysis (ABA) programs, has been subjected to insufficient systematic study.

The purpose of this study is to analyze the pertinent case law related to the two central issues of contention between parents and school districts—program selection (i.e., the choice between competing instructional approaches) and implementation of said program (e.g., its location, duration, or frequency)—in terms of winning parties (i.e., district or parent) and in terms of identifying the factors noted in the cases related to the outcome. This review of the literature addresses the current definitions of autism, ABA and its primary competing instructional approach, and the previous research on autism litigation.

The *Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition (DSM-IV)* (American Psychiatric Association, 1994) defines autism under the umbrella category of Pervasive Developmental Disorders (PDD), while medical professionals refer to both PDD and autism as *autistic spectrum disorder* (ASD; Filapek et al., 1999). Regardless of the nomenclature used, ASD and PDD refer to the same continuum of behaviors with a cluster of unusual characteristics: lack of social responsiveness, delays in speech or inadequate quality of speech, restricted or stereotypic interests, delays or abnormalities in social interaction, and lack of symbolic play (*DSM-IV*). On the other hand, the Individuals with Disabilities Education Act (IDEA) regulations (1999) define autism as follows:

A developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change, or change in daily routines, and unusual responses to sensory experiences.

The spectrum of autism and its unknown etiology (National Research Council, 2001) contribute to controversy, rather than consensus, in regards to selection of the appropriate instructional approach. Professionals and parents agree that early intervention is vital (McGee, Morrier, & Daly, 1999), but the specific nature of the intervention is disputed. Although treatment programs for children with autism have shown positive results (e.g., Koegel, Koegel, Harrower, & Carter, 1999; Koegel, Koegel, Shoshan, & McNeerney, 1999; Lovaas, 1987; McGee et al., 1999), methodological problems with some of the peer-reviewed, published studies haunt parents, educators, and the legal community.

The two most contested instructional approaches for children with autism are ABA and TEACCH (Treatment and Education of Autistic and Communication Handicapped Children; Gryzwacz & Lombardo, 1999). They share some basic components, such as predictable routines, supportive teaching arrangements, planned transitions, and family involvement. However, these approaches also have basic distinguishing characteristics and limited research.

ABA is the study of behavior and the manipulation of contingencies and setting events to increase or decrease specific behaviors. Behavior analysts use objective measures of the desired behaviors and monitor the results of instruction to ensure skill acquisition. One small subset of this methodology is discrete trial therapy (DTT). A further modification of DTT is Lovaas therapy, after its namesake, Professor O. Ivar Lovaas, of the University of California at Los Angeles (UCLA). The "discrete trial" in DTT refers to the basic teaching unit delivered in one-to-one instruction. Although DTT and ABA are synonymous for most parents and school officials, discrete trial is but one aspect of ABA. Typically, parents request DTT for 40 hours a week, arriving at an Individualized Education Program (IEP) meeting armed with Lovaas's original research study citing a 47% recovery rate (Lovaas, 1987) and the book *Let Me Hear Your Voice* (Maurice, 1993). The author of this book, a mother of two children diagnosed with autism, provides a moving account of the recovery of her children from the wordless, noncommunicative world of autism through the use of intensive intervention, based on the pioneering work of Lovaas and provided by the author and some very talented graduate students. This programming is usually delivered in the home and requires a massive time commitment from families (Choutka, 1999). With this type of instruction, the outcomes of seemingly small increments of learning are quantified and measured to ensure progress in many preacademic skill areas (Anderson & Romanczyk, 1999).

In contrast to the one-to-one instruction characterizing ABA, TEACCH is a classroom-based model developed at the University of North Carolina at Chapel Hill in the 1970s. It stresses structured teaching, independent work time, and vocational skills. TEACCH also offers parent training to foster improvement of parent skills in dealing with problem behaviors (Dawson & Osterling, 1997), highly predictable situations to promote appropriate behavior, and environmental structuring to facilitate independent functioning (Schopler & Reichler, 1971). The program principles include teaching skills and accepting deficits in children and parents. Unlike DTT, TEACCH does not offer a research-based recovery-rate percentage (Schopler, Mesibov, & Baker, 1982) and thus is less attractive to parents as an instructional program for their children.

In light of the increased incidence of autism (National Research Council, 2001), the rising tide of litigation (Zirkel, 2001), and the dearth of conclusive research on instructional approach effectiveness (Gresham, Beebe-Frankenberger, & MacMillan, 1999), the present study offers a timely examination of the factors associated with the outcomes of the published hearing/review and court decisions concerning instructional approaches for students with autism. These case outcomes have significant implications for students, parents, and schools, yet there is even less research concerning such litigation than there is research on instructional approaches for students with autism.

The previous research concerning autism litigation is limited to three published sources. First, Heflin and Simpson

(1998) discussed four issues—instructional approach, support services, placement decisions, and service length—and cited 16 published cases as examples. Their recommendations included that districts provide evidence of the efficacy of the selected instructional approach, but they did not provide specific, systematic case law support for their recommendations. Their case coverage was far from comprehensive, lacking various pertinent published hearing/review officer decisions (e.g., *Cobb County Sch. Sys.*, 1996) and court decisions (e.g., *Union Sch. Dist. v. Smith*, 1994).

Similarly, Gryzwacz and Lombardo (1999) did not analyze either the outcomes, in terms of which party won, or the factors associated with winning, but provided an overview of the debate concerning educational approaches appropriate for serving children with autism. They included a brief discussion of a limited sampling of approximately 10 pertinent cases. Their overall conclusion was that the courts generally defer to the "educational methodology" (Gryzwacz & Lombardo, 1999, p. 5), or instructional approach, selected by the school district unless it is blatantly inappropriate. Although Gryzwacz and Lombardo provided the full text of 14 published hearing/review officer and court decisions concerning the use of Lovaas/ABA and other methodologies for children with ASD, they did not provide a systematic or complete analysis of these or other pertinent cases (e.g., *T.H. v. Board of Educ. of Palatine Community Consol. Sch. Dist. 15*, 1998; *Dong v. Board of Educ. of Rochester Community Sch.*, 1998).

Coming closest to an empirical analysis of the pertinent case law, Yell and Drasgow (2000) analyzed 45 published cases tried between 1993 and 1998. They examined how the case law defined *appropriate* in terms of education for children with autism. However, as pointed out in Zirkel (2001), they omitted various relevant cases altogether (e.g., *Capistrano Unified Sch. Dist.*, 1995; *Dong v. Board of Educ. of Rochester Community Sch.*, 1998; *Fairfax County Pub. Sch.*, 1995) and, in some instances (e.g., *Burilovich v. Board of Educ. of Lincoln Consol. Sch. Dist.*, 1998; *T.H. v. Board of Educ. of Palatine Community Consol. Sch. Dist.*, 1998), failed to provide the superceding published decision within the limited time period of their study. Moreover, Yell and Drasgow used a simplistic, dichotomous categorization of outcomes without defining the meaning of the terms *won* and *lost*. More specifically, it is not clear how they categorized published decisions that were either inconclusive, such as when a court denied the motion for dismissal and thus preserved the matter for trial, or mixed, such as when the hearing officer or judge decided one issue in the parents' favor and another in the favor of the district. Further, they found parents to be the "prevailing party" (p. 208) in 76% of the cases without recognizing the specific legal meaning of that term (e.g., *G. v. Fort Bragg Dependent Sch.*, 2001).

This study expands the scope of the previous studies via an empirical analysis of a comprehensive sample of pertinent hearing/review officer and court decisions. More specifically, the sample for this study consists of all the ABA/DTT/Lovaas cases published in the *Education for Handicapped Law Re-*

port (EHLR) and *Individuals with Disabilities Education Law Report* (IDELR) through the end of Volume 34, divided into two groups—program selection and program implementation. The purposes of the study are (a) to determine the overall outcome of the two subsamples, both those cases focused on program selection and those cases focused on program implementation, and (b) to identify the outcome-related factors in both groups of cases.

## Method

As listed in the Appendix, we identified 68 hearing/review officer and court decisions that (a) were published in IDELR and EHLR through the end of Volume 34, which was in approximately August 2001; (b) identified the child as having any of the autism spectrum disorders, including PDD, autistic disorder, Rett syndrome, and Asperger syndrome (Mauk, Reber, & Batshaw, 1997); and (c) referenced ABA, DTT, or Lovaas instructional approaches. Regarding the third criterion, TEACCH was not necessary as a separate selection factor, because the only case in which TEACCH was at issue in the absence of ABA DTT, or Lovaas limited its focus to teacher training (*Sioux Falls School District v. Koupal*, 1994). For the final criterion, in the rare instance where the reference to ABA, DTT, or Lovaas was indirect, we included the case where the connection was reasonably understood. For example, we included *Calaveras Unified Sch. Dist.* (1994), which mentioned the UCLA clinic, even though it did not mention Lovaas per se. Finally, as in the Zirkel (2001) study, the analysis included only the highest published decision in each case, thus avoiding double counting; however, for the sake of comprehensive clarity, the Appendix also lists, in brackets, any published prior decisions for the same case.

First, we classified the cases into two broad categories—program selection and program implementation. The cases concerning program selection were those in which the parents sought an instructional approach (e.g., Lovaas) other than that proposed by the district (e.g., TEACCH). In contrast, the cases concerning program implementation were those in which the parties agreed on the instructional approach of ABA/DTT/Lovaas but the parent contested the location (e.g., home vs. school setting), duration (e.g., number of hours of instruction), or provider (e.g., particular individual or specific qualifications).

Second, we calculated the overall outcome of each case. As adapted from Lupini and Zirkel (2003), and as specified in Table 1, we used a nondirectional scale of 1 to 7 (1 = *complete win for the parents*, 7 = *complete win for the school authorities*; Lupini & Zirkel, 2003). This Likert-type scale reflects the multiple issues and varying dispositions, for example, the denial of a motion for summary judgment, thus improving the validity of previous research (e.g., Yell & Drasgow, 2000).

Third, through reviewing the published opinion of each case, in particular the Discussion or Legal Conclusions sections, we were able to glean factors that were expressly related

to the decision, or outcome. For example, we grouped these factors into the two prongs that the Supreme Court used to define appropriateness in the landmark decision of *Board of Education of the Hendrick Hudson Central School District v. Rowley* (1982; hereafter called *Rowley*). More specifically, the Court required the IEP to (a) be developed in accordance with the procedural dictates of the IDEA and (b) be calculated to yield educational benefit.

As outlined in Table 2, the identified factors fit into two categories, each with two subcategories. The first category is compliance with IDEA requirements, which consists of (a) IEP elements (e.g., present educational level, measurable annual goals) and (b) other procedural requirements (e.g., timelines, notices). The second category is evidence of educational benefit, which consists of the two leading sources of evidence of substantive compliance: (a) documentation of educational progress (e.g., progress charts, data sheets) and (b) effectiveness of witnesses. Some of the cases contained, and thus were coded for, more than one outcome-related factor.

For a factor to be recognized in Table 2, we established a minimum frequency criterion of 20%; specifically, the factor must have appeared across groups or categories in at least 14 of the 68 cases. Based on this criterion, two other factors were eliminated in light of their relative infrequency. First, contention between parents and districts regarding the expertise of program implementers appeared in only seven cases. Second, “deference,” which refers to a court giving the benefit of the doubt to a lower level of decision-making (Newcomer & Zirkel, 1999), appeared in only eight cases, likely because only one third (23) of the 68 cases were court decisions, as compared to hearing/review officer decisions.

For the purpose of interrater reliability, the first two authors independently coded a random sample of 23 of the 68 cases. After receiving training from the third author, they obtained an agreement level of 97% for case category (i.e., program selection or program implementation), 94% for outcome (i.e., 1–7 scale), and 94% for factor identification (e.g., testimony of witnesses). Finally, the first two authors reread, reviewed, and discussed the disputed cases, to reach 100% agreement on all areas of coding.

## Results

Of the 68 cases in the sample, 43 (63%) focused on program selection, that is, where the parent sought an instructional method other than the one proposed by the district. The average outcome of these cases, based on the outcome scale of 1 (*parents*) to 7 (*district*), with a 4.0 as the neutral midpoint, was 3.9. Contributing to the slight skew in the parents’ favor, 20 of the decisions at the polar positions of predominantly or completely conclusive decisions were in favor of parents (i.e., outcome codes 1 or 2), whereas 18 of the conclusive decisions were in favor of districts (i.e., outcome codes of 6 or 7). The remaining five cases had outcomes of 3, 4, or 5 (i.e., incon-

TABLE 1. Outcome Code Descriptions

Outcome code	Description
1—Parent complete win	This category consists of summary judgments in favor of the parent (i.e., decisions without a trial), as well as other conclusive wins on all major issues of the case in favor of the parent, including summary judgments.
2—Decision largely, but not completely, for the parent	This category represents conclusive decisions in the parent's favor for the majority of the issues or the awarding of relief (e.g., compensatory education, tuition reimbursement) of more than 50% and less than 100% of what the parent originally sought. In the rare instance when these two criteria are conflicted, relief criteria are the controlling factor. Further, in review officer and court decisions where the published opinion does not specify the amount of relief sought by the parent, the frame of reference was the amount of relief awarded by the preceding level.
3—Inconclusive decision favoring parent	This category includes the granting of a preliminary injunction (an interim decision after a short proceeding as well as the reversal of a dismissal of a case by a lower court), which means that the case will return to the lower court for a trial. Additionally, this category includes the denial of a summary judgment motion sought by school authorities (because this preliminary ruling will result in a trial to determine the ultimate, conclusive winner).
4—Split decision	This category includes the awarding of relief (e.g., compensatory education, tuition reimbursement) of approximately 50% of that originally sought by the parent. Further, in situations where the original amount of relief sought is unknown, this category includes the awarding of relief approximating 50% of that originally awarded by a lower court to the parent. In addition, this category includes cases in which petitions by both parties for rehearing are denied, as well as the denial of cross motions for summary judgment (because the effect in such situations does not favor either party).
5—Inconclusive win for the school authorities	This category includes the denial of a preliminary injunction or summary judgment sought by the parent (in that the parent still has the opportunity for a trial). In addition, it includes cases dismissed for failure to exhaust administrative remedies (i.e., cases where the parent did not resort first to a due process hearing) and cases dismissed without prejudice (because, after correcting the specified technical defects, the parents may still have their day in court).
6—Decision largely, but not completely, for school authorities	This category includes the awarding of relief (e.g., compensatory education, tuition reimbursement) of clearly less than 50% of that originally sought by the parent. Further, in situations where the original relief sought is not known, this category includes the awarding of relief approximating 50% of that originally awarded by a lower court to the parent.
7—Complete win for school authorities	This category includes granting of a summary judgment in favor of school authorities (because in both cases, the school authorities have won decisively at this preliminary step, ending the proceedings against them).

clusive or split decisions), meaning they were not decidedly in favor of either the parent or the district (i.e., *Adams v. State of Oregon*, 1999; *Asbury v. Missouri Dep't of Elementary and Secondary Educ.*, 1999; *CM v. Board of Educ. of Henderson County* [consolidated case with M.E.], 2001; *De Mora v. Department of Pub. Welfare*, 2001; and *Malkentzos v. DeBuono*, 1996), and were thus not reported in the results.

For cases regarding program selection, Table 3 summarizes the outcome-related factors relative to the conclusive outcomes in favor of parents and districts. The most frequent outcome-related factors were, in order, testimony of witnesses ( $n = 30$ ), documentation of educational benefit ( $n = 28$ ), and IEP elements ( $n = 25$ ). For the parent-won cases of program

selection, the most frequent factors were documentation of educational benefit ( $n = 20$ ), testimony of witnesses ( $n = 16$ ), and IEP elements ( $n = 14$ ). Similarly, for the district-won cases of program selection, the most frequent factors were testimony of witnesses ( $n = 14$ ), IEP elements ( $n = 11$ ), and documentation of progress as substantive evidence of the educational benefit of the district's program ( $n = 8$ ).

The remaining 25 (37%) cases focused on program implementation; that is, the parents did not dispute the instructional approach but contested the proposed location, duration, or provider. The average outcome of these cases, based on the previously mentioned 7-point scale, was 4.0. Establishing an overall tie position, 13 were at the polar positions of pre-



TABLE 2. Outcome-Related Factor Descriptions

Outcome-related factor	Description
Compliance with IDEA requirements Individualized Education Program (IEP) elements	This category concerns the appropriateness and completeness of the IEP components (i.e., present level of educational performance; statement of measurable annual goals; special education, related services, and supplementary aids and services to be provided; extent of participation in general education; assessment modifications; projected dates of initiation and duration of services; statement of transition services, if applicable; and statement of how progress will be measured and reported) as specified in IDEA 1997.
Other procedural requirements	This category consists of procedural issues such as time lines, notices, and IEP meeting participants as specified in IDEA 1997.
Evidence of educational benefit Documentation of progress	This category consists of documentation, provided by the parent or district, of the educational progress of student, such as progress charts and data sheets.
Testimony of witnesses	This category focuses on the persuasiveness of testimony provided by the district personnel, district-retained experts, and parent-retained experts.

Note. IDEA = Individuals with Disabilities Education Act.

TABLE 3. Case Frequency of Outcome-Related Factors

Factor	Winning party		Total frequency
	Parent	District	
Program-Selection Cases			
Compliance with IDEA requirements			
IEP elements	14	11	25
Other procedural requirements	7	2	9
Evidence of educational benefit			
Documentation of progress	20	8	28
Testimony of witnesses	16	14	30
Program-Implementation Cases			
Compliance with IDEA requirements			
IEP elements	8	8	16
Other procedural requirements	4	2	6
Evidence of educational benefit			
Documentation of progress	7	9	16
Testimony of witnesses	13	11	24

Note. IDEA = Individuals with Disabilities Education Act; IEP = Individualized Education Program.

dominant or completely conclusive decisions in favor of parents and 12 were conclusively in favor of districts.

In addition, Table 3 summarizes the factors related to the conclusive outcomes in favor of parents and districts in cases regarding program implementation. The most frequent outcome-related factors were, in order, testimony of witnesses ( $n = 24$ ), documentation of progress ( $n = 16$ ), and procedural compliance of the IEP with the requirements of IDEA ( $n = 16$ ). For the parent-won cases of program implementation,

the most frequent factors were, in order, testimony of parent-retained expert witnesses ( $n = 13$ ), procedural compliance of the IEP with the requirements of IDEA ( $n = 8$ ), and documentation of progress as evidence of the substantive standard of educational benefit ( $n = 7$ ). For the district-won cases of program implementation, the most frequently noted factors were testimony of district witnesses ( $n = 11$ ), documentation of progress ( $n = 9$ ), and procedural compliance of the IEP with the requirements of IDEA ( $n = 8$ ).

An examination of Table 3 in terms of the outcome-related factor totals reveals the same predominant pattern in program selection cases and program implementation cases and in both parent-won cases and district-won cases. Specifically, the most frequent factors for both categories of cases were effectiveness of the testimony of witnesses, documentation of progress, and IEP elements.

## Discussion

This study expanded the scope and improved the methods of previous pertinent research. Its purposes were to determine the overall outcome of the two subsamples—those cases focused on program selection and those focused on program implementation—and to identify the outcome-related factors in both groups of cases.

First, in terms of the overall outcomes, contrary to the common conception (e.g., Gryzwacz & Lombardo, 1999), the decisions did not predominantly favor districts. Conversely, qualifying the findings of Yell and Drasgow (2000), the outcomes did not strongly favor parents. Rather, the overall outcomes for both program-selection and program-implementation cases were virtually evenly split between the two subsamples. This finding, which is likely attributed to the individualized, “it depends” nature of IDEA, is in line with the more general trends of autism cases (Zirkel, 2001) and special education cases (Zirkel, 1998).

The findings of this study suggest that the odds of either party (i.e., parent or district) decidedly winning are 50-50 for ABA/DDT/Lovaas autism cases. Further, the study suggests that the odds of either party decidedly winning are the same for cases dealing with the selection of instructional approach (e.g., Lovaas or TEACCH) as for those regarding the implementation of said approach (e.g., its location, duration, or frequency).

Second, a parallel pattern of outcome-related factors emerged in both program-selection and program-implementation cases, suggesting that the outcome is related to particular factors working in favor of either the district or the parents. At the threshold stage, four factors met the minimum criterion for tabular analysis: (a) IEP elements, (b) other procedural requirements, (c) documentation of progress, and (d) testimony of witnesses. Among these four factors, testimony of witnesses was most frequent for both program-selection and program-implementation cases. Moreover, the pattern was approximately parallel for both groups of cases with respect to the second and third most frequent outcome-related factors—namely, documentation of progress and IEP elements. Additionally, “other procedural requirements” was in fourth place for both types of cases.

The most frequently occurring outcome-related factor, testimony of witnesses, had not been empirically identified in the previous pertinent literature. In both program-selection and program-implementation cases, the outcome-related fac-

tors, which provide evidence of educational benefit (documentation of progress and testimony of witnesses), occurred most frequently. This finding is consistent with the substantive requirements of IDEA. It further suggests that both parents and districts must be prepared to defend their program by providing witnesses who are knowledgeable about the unique needs of the child and have autism program expertise. The witness or witnesses must convince the hearing/review officer or judge that the program provides educational benefit for the child. Further, the parents or district must provide documentation of demonstrated progress toward educational goals. In terms of documentation of progress and evidence of educational benefit, this finding confirms Heflin and Simpson's (1998) impressionistic conclusion about proof of efficacy of programming.

In spite of the fact that the factors associated with compliance with IDEA requirements (IEP elements and other procedural requirements) occurred less frequently, they were important outcome-related factors for both parents and districts. If the requirements are not satisfied, the hearing/review officer or judge will find against the noncompliant party. Therefore, the “evidence of educational benefit” factor may occur only in cases where the parties satisfied the compliance requirements of IDEA.

Although the frequency of “other procedural requirements” was found fourth in occurrence among the factors and applied almost exclusively to districts, both parties would be advised to attend to this seemingly minor factor. In most of the cases, there were no technical violations, and if they occurred, they were not severe enough to result in a denial of FAPE (free and appropriate public education). When FAPE is denied, the district could be found to cause harm to the student's educational program. Examples of these errors include placement decisions made before the development of measurable goals and objectives, failure to specify the frequency and length of services (e.g., *Taunton Pub. Sch.*, 1997), failure to comply with timeline requirements (e.g., *Cobb County Sch. Sys.*, 1996), and failure to include parental participation in IEP development (e.g., *T.H. v. Board of Educ. of Palatine Community Consol. Sch. Dist.*, 1998). In cases where there were substantial procedural errors that denied FAPE, parents prevailed in their requests for programming. This finding seemingly supports the theory that the substantive standard established in *Rowley* receives greater emphasis in legal cases than procedural, technical compliance (Yell & Drasgow, 2000).

Therefore, if parents seek to be successful in ABA/DDT/Lovaas autism cases, they need to be prepared to establish an appropriate program and validate it with empirical evidence and effective experts. Additionally, their probability of success appears to be enhanced when they prove that the district has committed procedural violations or when the district fails to provide evidentiary support of the efficacy of its proffered program. Although each case stands on its own merits, these particular factors appear to be associated with, or predictive of, a favorable parent outcome.

For a district to be successful in ABA/DTT/Lovaas cases, the district similarly needs to provide evidence of the educational benefit of its program through the testimony of well-qualified and prepared personnel or expert witnesses, as well as other evidence of the substantive appropriateness of its program with documentation of progress. Demonstration of the level of expertise of the district personnel who deliver the program either supports or fails to support the substantive appropriateness of the program. For example, the district service providers must be able to show defensible familiarity with the unique needs of the child and cogent knowledge of the critical program components of the correspondents' program.

Although the courts hesitate to dictate methodology, when a hearing officer or court determines that FAPE is denied, the courts will impose a program. Procedures and substance create an appropriate program, and a deficit in either creates a gap that the court may fill with a program requested by the parent.

These interpretations are cautious and relatively conservative for several reasons. First, there have been no prior systematic analyses of the pertinent case law and thus the findings lack replication. Second, although the sample was comprehensive, it represented only the published pertinent decisions, as opposed to the much larger but generally unavailable settled and unreported decisions. Third, the factors in this study were gleaned from the written decisions of the hearing/review officers or judges and may not reflect the totality of outcome-related factors involved in the decisions (e.g., undisclosed side comments).

Therefore, this analysis constitutes a significant start rather than a conclusive end for autism methodology litigation. For example, further research is recommended to investigate the relationship of deference to outcome with a homogeneous sample of judicial cases. *Deference*, in the judicial context, refers to the court giving the benefit of the doubt to the decision of a lower level of decision-making (Newcomer & Zirkel, 1999). In this context, there are three potential lower levels. First, in appellate cases, the court typically accords deference to the trial court, at least in terms of factual findings. Second, in *Carlisle Area School District v. Scott P.* (1995), a tuition reimbursement case for a student who was blind, not included in this study, the Third Circuit Court of Appeals explained that a "clearly erroneous standard" (p. 526) applied to the trial court's findings in this case for factual questions. Thus, if the trial court decision were wrong, but not clearly wrong, the appeals court would affirm the finding. Third, in trial or appellate cases, the court may accord deference to the decision of the hearing officer or, in states that have elected to have two tiers of impartial administrative adjudication, the review officer. For example, in *Burilovich v. Board of Educ. of the Lincoln Consolidated School District* (1998), the district court observed, "This court has give[n] appropriate deference to the administrative determination of the state hearing officer" (p. 283). Finally, some courts have accorded deference to the decision of the state or local educational authorities, such as

the school district. For example, in an inclusion case not included in this study, *Greer v. Rome City School District* (1991), the Eleventh Circuit Court noted, "It is not our intention here to invade the deference due school districts in their choice of educational methodologies" (p. 699).

This research reports that neither parents nor school districts predominately win autism/ABA/DTT cases where the method of instruction or the implementation of program is contested. However, the results suggest that four factors are related to the outcome of autism program selection and implementation cases. As the number of students with autism increases, the number of cases in litigation concerning appropriate programs will undoubtedly rise. Any definitive generalization from this research should be tempered by the individualistic nature of IDEA and, consequently, the case law.

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- Sioux Falls Sch. Dist. v. Koupal, 526 N.W.2d 248 (S.D. 1994).
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- T.H. v. Bd. of Educ. of Palatine Cmty. Consol. Sch. Dist. 15, 29 IDELR 471 (N.D. Ill. 1998) and 30 IDELR 764 (N.D. Ill. 1999).
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## Appendix

### Comprehensive Case Listing of Hearing/Review Officer (“SEA”) and Court Decisions

The analysis was based on the highest published decision in each case. Additionally, any published previous decisions in the same case at a lower level are noted in brackets.

- Adams v. State of Oregon, 195 F.3d 1141, 31 IDELR ¶ 130 (9th Cir. 1999)
- Alexander v. Virginia Bd. of Educ., 30 IDELR 967 (E.D. Va. 1999)
- Asbury v. Missouri Dep’t of Elementary and Secondary Educ., 29 IDELR 877 (E.D. Mo. 1999)
- Azle Indep. Sch. Dist., 26 IDELR 931 (Tex. SEA 1997)
- Barretown Elementary Sch. Dist., 29 IDELR 521 (Vt. SEA 1998)
- Board of Educ. of the City Sch. Dist. of the City of New York, 24 IDELR 199 (N.Y. SEA 1996)
- Board of Educ. of the City Sch. Dist. of the City of New York, 28 IDELR 519 (N.Y. SEA 1998)
- Board of Educ. of the City Sch. Dist. of the City of New York, 33 IDELR ¶ 58 (N.Y. SEA 2000)
- Board of Educ. of the City Sch. Dist. of White Plains, 25 IDELR 872 (N.Y. SEA 1997)
- Board of Educ. of the County of Kanawha v. Michael M., 32 IDELR ¶ 170 and 33 IDELR ¶ 185 (S.D.W.Va. 2000)
- Board of Educ. of the Eastchester Union Free Sch. Dist., 33 IDELR ¶ 287 (N.Y. SEA 2000)
- Board of Educ. of the Greenwood Lake Union Free Sch. Dist., 23 IDELR 1032 (N.Y. SEA 1996)
- Board of Educ. of the North Rose-Wolcott Cent. Sch. Dist., 26 IDELR 325 (N.Y. SEA 1997)
- Board of Educ. of the Roslyn Union Free Sch. Dist., 31 IDELR ¶ 201 (N.Y. SEA 1999)
- Burilovich v. Board of Educ. of the Lincoln Consol. Sch., 32 IDELR ¶ 85 (6th Cir. 2000) [Burilovich v. Board of Educ. of the Lincoln Consol. Sch., 28 IDELR 277 (E.D. Mich. 1998)]
- Calaveras Unified Sch. Dist., 21 IDELR 211 (Cal. SEA 1994)
- Capistrano Unified Sch. Dist., 23 IDELR 1209 (Cal. SEA 1995)
- Chester County Intermediate Unit, 23 IDELR 723 (Pa. SEA 1995)
- Child with Disabilities, In re, 23 IDELR 471 (Conn. SEA 1995)
- CM v. Board of Educ. of Henderson County, 34 IDELR ¶ 57 (4th Cir. 2001) [CM v. Board of Educ. of Henderson County, 29 IDELR 866 and 32 IDELR ¶ 89 (W.D. N.C. 1999)] and M.E. v. Board of Educ. for Buncombe County, 32 IDELR ¶ 63 (W.D. N.C. 1999)
- Cobb County Sch. Sys., 24 IDELR 875 (Ga. SEA 1996)
- Cobb County Sch., 24 IDELR 1113 (Ga. SEA 1996)
- Delaware County Intermediate Unit #25 v. Martin K., 20 IDELR 363 (E.D. Pa. 1993)
- De Mora v. Department of Pub. Welfare, 34 IDELR ¶ 85 (Pa. Commw. Ct. 2001)
- Dong v. Board of Educ. of the Rochester Community Sch., 31 IDELR ¶ 157 (6th Cir. 1999) [Dong v. Board of Educ. of the Rochester Community Sch., 29 IDELR 196 (E.D. Mich. 1998)]
- Fairfax County Pub. Sch., 22 IDELR 80 (Va. SEA 1995)
- Flour Bluff Indep. Sch. Dist., 25 IDELR 1121 (Tex. SEA 1997)
- Frederick County Pub. Sch., 29 IDELR 1012 (Md. SEA 1999)
- G. v. Fort Bragg Dependent Sch., 34 IDELR ¶ 176 (E.D. N.C. 2001) [Student with a Disability, In re, 30 IDELR 408 (DDDLSA 1998) and G., In re, 27 IDELR 451 (DDDLSA 1997)]
- Gellerman v. Calaveras Unified Sch. Dist., 34 IDELR ¶ 33 (E.D. Ca. 2000) [Calaveras Unified Sch. Dist., 29 IDELR 1099 (Cal. SEA 1998)]
- Gill v. Columbia 93 Sch. Dist., 32 IDELR ¶ 254 (8th Cir. 2000) [Gill v. Columbia 93 Sch. Dist., 29 IDELR 955 and 31 IDELR ¶ 29 (W.D. Mo. 1999)]



32. High Bridge Bd. of Educ., 24 IDELR 589 (N.J. SEA 1995)
33. Independent Sch. Dist. No. 281, 28 IDELR 370 (Minn. SEA 1998)\*
34. Independent Sch. Dist. No. 281, 28 IDELR 340 (Minn. SEA 1998)\*
35. Independent Sch. Dist. No. 318, 24 IDELR 1096 (Minn. SEA 1996)
36. La Mesa-Spring Valley Sch. Dist., 30 IDELR 191 (Cal. SEA 1999)
37. Lexington County Sch. Dist. Five, 25 IDELR 933 (S.C. SEA 1997)
38. Lexington County Sch. Dist. One, 29 IDELR 808 (S.C. SEA 1998)  
[Lexington County Sch. Dist. One, 27 IDELR 1182 (S.C. SEA 1998)]
39. Long Beach Unified Sch. Dist., 29 IDELR 541 (Cal. SEA 1998)
40. Los Alamitos Unified Sch. Dist., 26 IDELR 766 (Cal. SEA 1997)
41. Malkentzos v. DeBuono, 25 IDELR 36 (2d Cir. 1996) [Malkentzos v. DeBuono, 24 IDELR 31 (S.D. N.Y. 1996)]
42. Mr. and Mrs. "B" v. Board of Educ. of the Syosset Sch. Dist., 27 IDELR 685 (E.D. N.Y. 1998)
43. Mr. X v. New York State Educ. Dep't, 26 IDELR 854 (S.D. N.Y. 1997) and 29 IDELR 705 (S.D. N.Y. 1998)
44. MSAD #28, 27 IDELR 786 (Me. SEA 1998)
45. Multnomah Educ. Serv. Dist., 24 IDELR 98 and 24 IDELR 606 (Or. SEA 1996)
46. Norwood Pub. Sch., 28 IDELR 1282 (Mass. SEA 1998)
47. Old Adobe Union Elementary Sch. Dist., 27 IDELR 70 (Cal. SEA 1997)
48. Peninsula Sch. Dist., 27 IDELR 381 (Wash. SEA 1995)
49. Petersham Pub. Sch., 26 IDELR 703 (Mass. SEA 1997)
50. Portland Pub. Sch., 26 IDELR 96 (Me. SEA 1997)
51. Rebecca S. v. Clarke County Sch. Dist., 22 IDELR 884 (M.D. Ga. 1995)
52. Redlands Unified Sch. Dist., 28 IDELR 1256 (Cal. SEA 1998)
53. Renner v. Board Educ. of the Pub. Sch., 30 IDELR 885 (6th Cir. 1999)
- [Board of Educ. of the Ann Arbor Pub. Sch., 24 IDELR 621 (Mich. SEA 1996)]
54. Salem-Keizer Sch. Dist. No. 9, 34 IDELR ¶ 26 (Or. SEA 2000)
55. Sanford Sch. Comm. v. Mr. And Mrs. L., 34 IDELR ¶ 262 (D. Me. 2001)
56. School Bd. of Martin County v. A.S., 29 IDELR 964 (Fla. Dist. Ct. App. 1999)
57. Shoreline Sch. Dist., 26 IDELR 923 (Wash. SEA 1997)
58. Special Sch. Dist. #1, 30 IDELR 419 (Minn. SEA 1999)
59. Steinmetz v. Richmond Community Sch. Corp., 33 IDELR ¶ 155 (S.D. Ind. 2000) [Richmond Community Sch. Corp., 29 IDELR 443 (Ind. SEA 1998) and 30 IDELR 208 (Ind. SEA 1999)]
60. Still v. DeBuono, 25 IDELR 32 (2d Cir 1996) [Still v. DeBuono, 24 IDELR 334 (S.D. N.Y. 1996)]
61. T.H. v. Board of Educ. of Palatine Community Consol. Sch. Dist. 15, 29 IDELR 471 (N.D. Ill. 1998) and 30 IDELR 764 (N.D. Ill. 1999) [Palatine Community Consol. Sch. Dist 15, 29 IDELR 258 (N.D. Ill. 1998)]
62. Taunton Pub. Sch., 27 IDELR 108 (Mass. SEA 1997)
63. Tuscaloosa County Bd. of Educ., 21 IDELR 826 (Ala. SEA 1994)
64. Union Sch. Dist. v. Smith, 20 IDELR 987 (9th Cir. 1994) [Union Elementary Sch. Dist., 16 EHLR 978 (Cal. 1990)]
65. Walker County Sch. Dist. v. Bennett, 31 IDELR ¶ 239 (11th Cir. 2000) [Walker County Sch. Sys., 26 IDELR 440 (Ga. SEA 1997)]
66. Waltham Pub. Sch., 1988-89 EHLR 401:431 (Mass. SEA 1989)
67. Washoe County Sch. Dist., 27 IDELR 560 (Nev. SEA 1997)
68. Watertown Pub. Sch. Dist., 26 IDELR 92 (Mass. SEA 1996)

\* Separate cases (twin brothers).