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Validation Review of Year 3 Service Study Methodology and Results

August 4, 2006

Submitted to:

Office of the Independent Monitor
Los Angeles Unified School District

Submitted by:

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I. Introduction

This report presents findings from a validation study conducted by AIR examining the results from the Year 3 study of the delivery of special education services in the Los Angeles Unified School District (LAUSD or the “District”) for the 2005-06 school year conducted by the Program Evaluation and Research Branch (PERB) of LAUSD. The purpose of these annual studies was to measure the degree of conformity between the actual provision of special education services in LAUSD with what is required by each student’s Individualized Education Program (IEP). In short, the studies attempt to ascertain the extent to which LAUSD students are actually receiving what is required under special education law.

The federal Individuals with Disabilities Education Act (IDEA) requires that all eligible students with disabilities have an IEP, which specifies instructional goals and the special education services¹ for each student in special education. Students in special education may receive a broad array of services according to their IEPs. For most services, the IEP specifies the frequency and duration with which the service is to be provided. The AIR study for the 2003-04 school year developed indicators of the extent to which each of these required services was actually being provided to students with disabilities throughout the District in accordance with their IEPs. The results were used to develop a performance outcome in the area of service delivery for LAUSD as required by the Modified Consent Decree, a class action settlement requiring improvements in a number of aspects of the District’s special education system.

The PERB studies for the 2004-05 and 2005-06 school years built upon AIR’s Year 1 methodology. In all studies, there were two major research components. The first analyzed a sample of IEPs and corresponding service logs to assess the match between the types of service specified in the IEP, including duration and frequency, with what was actually provided as recorded in the provider logs. The second component involved visits to the schools of a sub-sample of students to provide a further check against service provision as recorded in logs. Observers traveled to schools at the scheduled time of service delivery to observe whether the service specified in the IEP was actually provided and for what length of time.

The purpose of this validation study is to provide a cross-check of LAUSD’s Year 3 methodology and findings to assess whether the 2005-06 results are an accurate depiction of service delivery in LAUSD. The validation process consisted of three primary activities:

- 1) Regular communication with PERB and the Office of the Independent Monitor (OIM) throughout Year 3 to review methodological decisions, with particular emphasis on refining rules for interpreting data on in the IEPs and logs.

¹ Please refer to U.S. Department of Education (1999), Code of Federal Regulations (CFR) Sections 300.24 and 300.6, for descriptions of related services and assistive technology services to be made available to eligible students with disabilities.

- 2) Data cleaning and analysis of the codes that PERB data enterers recorded when comparing IEP information to logs of 3,335 special education students.
- 3) An independent data entry conducted by AIR staff comparing IEP and log information of 608 service records for 357 randomly selected students, using PERB's data entry rules.²

It is important to note that the validation process consisted of more than the tables presented in this report. At the start of the Year 3 study, AIR met with PERB and OIM staff to discuss issues that emerged from the Year 2 validation report and lay the groundwork for collaboration throughout Year 3. We subsequently held monthly conference calls and regular email exchanges to discuss methodological decisions and clarify the rules for data interpretation.

In last year's validation report, we spent considerable space describing the changes from Year 1 (conducted by AIR) and Year 2 (conducted by PERB). By contrast, few changes were made this year to the approach, and we believe that the modifications that were made enhanced the reliability of the population estimates.³

Our overall conclusion based on these activities is that the PERB results are a reliable indicator of special education service delivery, although there are continuing methodological challenges, some of which PERB raises in its Year 3 report.

One particular challenge involves growing flexibility in the provision of special education services, which may make log tracking and traditional site visits unsuitable as a means for measuring service provision. As reported by PERB and shown in Appendix A, nearly 30% of the services sampled for a site visit were deemed too flexible to observe by PERB, with a substantial range shown by service category – from 3% of visual impairment services to more than 70% of LRE services. If the site visit component continues to be conducted, we recommend designing a research methodology that can evaluate the compliance rate of flexible services, particularly given the magnitude of the impact on certain services.

A second issue concerns resource specialist services (RSP), which at times appear to be ambiguously defined in the IEPs. For instance, some IEPs did not record an RSP service code for particular goals, but showed frequency and duration for undefined services. When both general and special education teachers are documented as the providers, but no service code is recorded, does this constitute resource specialist services? In addition, a new element in the Welligent IEPs is the recording of the number of minutes of service that will be provided outside the regular education classroom. Is the District responsible

² The sample originally included 400 students, 40 from each of the ten disability categories, drawn from an overall sample of 4,500 students. A number of students in the sample, however, did not have resource specialist or related services specified in their IEPs.

³ Modifications included using the Welligent for both online and batch-entered IEPs; including IEPs in the analysis without parent signatures; limited involvement of the Special Education Division with the log collection; only one follow-up attempt to collect logs; and detailed documentation of the rules for interpreting information on the logs.

for providing evidence of services provided within the general education classroom, even if that service might be provided by the general education teacher? Given that RSP services had the second lowest return rate on logs (77.3%) as well as the second lowest compliance rate for both frequency and duration, the IEPs must be as clear as possible on the nature of these services. If this study continues into Year 4, additional discussions should occur regarding how to refine the RSP analyses and ways in which the IEPs can better document this service for accountability purposes.

We also recommend that the Welligent system be modified to allow reporting yearly frequency and duration for services that do not occur on a weekly or monthly basis. These services may need special consideration in this study, as analyzing these services within an 8-week timeframe may not accurately reflect the service provision rates. As more logs become electronic, services identified as being yearly could be analyzed across a full year.

As we recommended last year, it is critical that the IEP has been properly and fully completed. Checks should be built into Welligent to ensure that the frequency and duration have been entered for each service. Among the 3,335 students analyzed by PERB, 201 students, or 6% of the sample, were missing a frequency and/or duration for specific services.

The Welligent electronic system will allow for more real-time comparisons between IEPs and logs, and eliminate problematic data collection and entry issues. We strongly encourage that a study be carried out prior to Year 4 to assess the feasibility of using Welligent IEP and log information to conduct such comparisons.

Report Overview: Section II of the report reviews AIR's analysis of PERB data alongside the 2005-06 PERB estimates for the overall population and by disability category. Comparisons are shown for the four primary analyses: evidence of service provision using log data, frequency compliance, duration compliance, and evidence of service provision using site visitation data.

Section III describes the results from AIR's independent data entry of a sample of 357 students, using PERB's rules for log interpretation. It is important for the readers to note that the estimates in this section are exercises and should not to be interpreted as official results.

II. Comparison of 2005-06 PERB Results and AIR's Analysis of PERB Data

This section presents the 2003-04 results alongside two sets of 2004-05 and 2005-06 results. The first estimates presented in each set are taken directly from PERB's Year 3 report, and the second set is derived from AIR's analysis of PERB raw data. As described in the Year 2 report, PERB data enterers entered codes to indicate whether the log showed that the service provision complied or did not comply with the IEP requirements.

Three other codes were used to denote records in which the data enterers could not determine whether the log was in compliance; to identify records in which the IEP did not report a frequency or duration; and to identify students who were dropped from the analysis. As shown in the following tables, we conducted our own analyses of these codes and compare them to the PERB estimates.

A. IEP-Log Analysis: Evidence of Service Provision:

As mentioned, AIR conducted an analysis of PERB’s data entry codes regarding evidence of service delivery, and the results correspond with the PERB Year 3 findings. Table II-1 presents the weighted population estimates across all of the years studied, while Table II-2A and 2B present the 2005-06 percentages by disability category. While the percentage of services provided appeared to increase dramatically from 2003-04 to 2004-05, better service documentation and methodological changes may have attributed to an increase in the evidence of logs.⁴ With minimal modifications to the Year 3 methodology, we observe a decline from 93.2 percent service provision in 2004-05 to 84.8 percent provision in 2005-06 excluding SLD.⁵

Table II-1. Percentages of Services Provided based on IEP-Log Data: Overall Population Estimates, 2003-04 (AIR), 2004-05, and 2005-06

	Weighted to the Population with SLD A	Weighted to the Population without SLD B	Estimate for SLD Only C
2003-04 AIR	42.7%	63.7%	33.8%
2004-05 PERB	—	93.2%	72.8%
2004-05 AIR Analysis of PERB Data	84.9%	93.2%	72.8%
2005-06 PERB	—	84.8%	79.4%
2005-06 AIR Analysis of PERB Data	82.7%	84.8%	79.4%

⁴ See the *Validation Review of Year 2 Service Study Methodology and Results* for a full discussion on the changes observed in the methodologies and results between Years 1 and 2.

⁵ The confidence intervals for the population estimates in 2004-05 and 2005-06 do not overlap, suggesting a statistically significant decline in evidence of service provision.

Table II-2A. Evidence of Service Provision by Disability (excluding SLD), 2005-06

Disability	2005-06 PERB			2005-06 AIR Analysis of PERB Data		
	N of Records Analyzed	N	%	N of Records Analyzed	N	%
Autism	594	517	87.0	594	517	87.0
Deaf/Hard of Hearing	524	485	92.6	524	485	92.6
Emotional Disturbance	355	300	84.5	355	300	84.5
Mental Retardation	457	403	88.2	457	403	88.2
Multiple Disability/Deaf-Blind	446	415	93.0	446	415	93.0
Orthopedic Impairment/ Traumatic Brain Injury	740	670	90.5	740	670	90.5
Other Health Impairment	424	355	83.7	424	355	83.7
Speech and Language Impairment	389	304	78.1	389	304	78.1
Visual Impairment	659	634	96.2	659	634	96.2
Total	4,588	4,083	89.0	4,588	4,083	89.0

Table II-2B. Evidence of Service Provision for Specific Learning Disability, 2005-06

Disability	2005-06 PERB			2005-06 AIR Analysis of PERB Data		
	N of Records Analyzed	N	%	N of Records Analyzed	N	%
Specific Learning Disability	744	591	79.4	744	591	79.4

B. IEP-Log Analysis: Frequency Compliance

A second component of the study was to assess whether services were being provided at the frequency required by the IEPs. While we did not provide a population estimate for frequency compliance in 2003-04, Table II-3 presents this information for the population excluding SLD (57.9%) and SLD only (54.1%) for 2005-06, using AIR’s analysis of PERB data codes. The Year 2 results are also presented.

Table II-3. Percentages of Services Meeting IEP Frequency, Overall Population, 2004-05 and 2005-06

	Weighted to the Population with SLD	Weighted to the Population without SLD	Estimate for SLD Only
2004-05 AIR Analysis of PERB Data	52.2%	52.8%	51.5%
2005-06 AIR Analysis of PERB Data (with modifications)	56.2%	57.9%	54.1%

The reader will note that AIR’s analysis of the PERB codes by disability category in Table II-4 (Column C) produces slightly different numbers. In the overall total number of records analyzed, we included records in which there was frequency information in the IEP but for which PERB could not determine whether frequency was met, thereby

lowering the compliance percentages. In addition, we dropped 6 records which PERB recorded as being in compliance and 8 records recorded as not being in compliance because the IEP frequency information in the database was blank. However, we acknowledge that these may not be data entry errors, as PERB may have received newer IEP information regarding these services. As the database was not changed to reflect this newer information, we continued to exclude these records from the analysis. The modifications to PERB’s original data codes have an insignificant impact on the overall percentage of services meeting the IEP frequency.

Table II-4A. Percentages of Services Meeting IEP Frequency by Disability (excluding SLD), 2005-06

Disability	2005-06 PERB			2005-06 AIR Analysis of PERB Data ¹		
	A	B		C		
	N of Records Analyzed	N	%	N of Records Analyzed	N	%
Autism	462	271	58.7	462	271	58.7
Deaf/Hard of Hearing	423	279	66.0	424	279	65.8
Emotional Disturbance	254	171	67.3	254	171	67.3
Mental Retardation	365	224	61.4	365	223	61.1
Multiple Disability/Deaf-Blind	374	262	70.1	371	258	69.5
Orthopedic Impairment/ Traumatic Brain Injury	582	407	69.9	580	401	69.1
Other Health Impairment	298	173	58.1	295	172	58.3
Speech and Language Impairment	282	142	50.4	283	141	49.8
Visual Impairment	583	396	67.9	583	395	67.8
Total	3,623	2,325	64.2	3,617	2,311	63.9

¹ AIR conducted analyses on PERB data, with some modifications.

Table II-4B. Percentages of Services Meeting IEP Frequency for Specific Learning Disability, 2005-06

Disability	2005-06 PERB			2005-06 AIR Analysis of PERB Data ¹		
	N of Records Analyzed	N	%	N of Records Analyzed	N	%
Specific Learning Disability	459	248	54.0	453	245	54.1

¹ AIR conducted analyses on PERB data, with some modifications.

C. IEP-Log Analysis: Duration Compliance

The annual studies also determined the rates at which services were provided at the total monthly duration required by the IEP. As with the frequency analysis, AIR did not provide a population estimate for this component in Year 1. Presenting this information for 2004-05 and 2005-06, Table II-5 shows that 60.1% of the services were provided to the overall population (excluding SLD) in 2005-06, using the data coded by PERB.

Table II-5. Percentages of Services Meeting Total Duration, Overall Population, 2004-05 and 2005-06

	Weighted to the Population with SLD	Weighted to the Population without SLD	Estimate for SLD Only
2004-05 AIR Analysis of PERB Data	54.9%	55.6%	54.1%
2005-06 AIR Analysis of PERB Data	59.1%	60.1%	57.9%

Tables II-6A and 6B below present the results by disability category. Again, AIR’s analysis of the PERB data generate slightly different estimates due to the fact that records with IEP duration but for which PERB could not determine compliance were included in the total number of records analyzed. As above, we dropped 8 records coded by PERB to have met the duration and 6 records coded as not meeting the duration because the IEP duration information in the database was blank. In addition, one record was coded by PERB to indicate the IEP did not report a duration amount, although the database showed time. Please note again that PERB may have received newer IEP information that was not updated in the database. As with the frequency analysis, these modifications have only a minor impact on the overall duration percentages.

Table II-6A. Percentages of Services Meeting Total Duration by Disability (excluding SLD), 2005-06

Disability	2005-06 PERB			2005-06 AIR Analysis of PERB Data ¹		
	B			C		
A	N of Records Analyzed	N	%	N of Records Analyzed	N	%
Autism	463	271	58.5	462	270	58.4
Deaf/Hard of Hearing	419	286	68.3	420	286	68.1
Emotional Disturbance	255	176	69.0	255	176	69.0
Mental Retardation	365	234	64.1	366	233	63.7
Multiple Disability/Deaf-Blind	373	274	73.5	374	273	73.0
Orthopedic Impairment/ Traumatic Brain Injury	582	422	72.5	585	420	71.8
Other Health Impairment	302	185	61.3	300	184	61.3
Speech and Language Impairment	282	149	52.8	282	148	52.5
Visual Impairment	581	400	68.8	582	400	68.7
Total	3,622	2,397	66.2	3,626	2,390	65.9

¹ AIR conducted analyses on PERB data, with some modifications.

Table II-6B. Percentages of Services Meeting Total Duration for SLD, 2005-06

Disability	2005-06 PERB			2005-06 AIR Analysis of PERB Data ¹		
	N of Records Analyzed	N	%	N of Records Analyzed	N	%
Specific Learning Disability	467	273	58.5	466	270	57.9

¹ AIR conducted analyses on PERB data, with some modifications.

D. Service Provision: Site Visitation

All studies incorporated a site visitation component to serve as a check on the estimates generated by the IEP-log analysis. AIR analysis of PERB codes in 2005-06 produce the same results as what is reported in PERB’s Year 3 report. However, AIR received a database containing only the codes for the site visits; accordingly, we cannot comment on the validity of how the observations were coded.

Table II-7. Percentages of Services Provided based on IEP-Site Visitation Data: Overall Population Estimates, 2003-04 (AIR only), 2004-05, and 2005-06

	Weighted to the Population with SLD	Weighted to the Population without SLD	Estimate for SLD Only
2003-04 AIR (Unmodified)	89.6%	82.6%	92.6%
2003-04 AIR (Modified*)	90.4%	85.6%	92.6%
2004-05 PERB	—	77.2%	79.0%
2004-05 AIR Analysis of PERB Data	79.2%	78.9%	79.4%
2005-06 PERB	—	86.4%	84.6%
2005-06 AIR Analysis of PERB Data	85.2%	86.4%	84.6%

* In the modified figures, provider absence due to jury duty, illness, or family emergency (n=11 in Year 1) count as evidence of service provision, according to an OIM decision regarding Year 2 data.

Table II-8. Number of Percentage of Site Visitation Observations by Session Status, 2005-06

Status of Session	PERB Observations 2005-06 ^{<1>}	PERB % 2005-06 ^{<1>}
Service Provided	302	88%
Code 1. Session Completed	227	66%
Code 2. Service Provided but Session Incomplete	17	5%
Code 3. Provider Absent (illness, emergency, jury duty)	10	3%
Code 5. Student Absent/Provider Present	39	11%
Code 6. Student No Show/ Provider Present	9	3%
Service Not Provided^{<2>}	41	12%
Code 4. Provider in Meeting/ Student Present	11	3%
Code 7. Provider Absent (reason unknown)/ Student Present	23	7%
Code 8. Service Not provided	7	2%
Total	343	

¹ AIR conducted an analysis on the PERB coded data and generated the same results.

III. Results of AIR’s Data Entry Using PERB Rules

When producing estimates for a high-stakes purpose such as this, transparency of data is critical for ensuring the reliability of the analyses through replication. In Year 1, AIR data enterers entered the frequency and duration information from the logs into a database, which were subsequently analyzed against the frequency and duration required by the IEP. In a departure from this approach in Years 2 and 3, PERB data enterers were trained to interpret during their data entry whether the log information was in compliance with the IEP. For each component (evidence of service, frequency, and duration), the data enterers would enter a “1” to indicate that the log met the IEP requirements; a “2” when the log did not meet the IEP requirements; a “3” when it could not be determined; a “4” when the IEP did not report a frequency and/or duration; and a “5” when the student was to be dropped (e.g., left the District, exited special education). No frequency or duration information from the logs was entered. Consequently, under this approach it is only possible to analyze PERB’s interpretations for all of the logs entered (e.g., tabulations of code 1’s, etc.), but not to replicate the analysis using raw data of the logs. This approach may raise questions as to how accurately the data enterers interpreted the log information, and as to how it is possible to replicate the results.

As part of the validation process for Year 3, AIR collaborated with PERB in the process of creating detailed rules for interpreting log information to assist with replication. Using the rules documented by PERB, AIR staff entered information from 608 logs representing a randomly selected sample of 354 students and assessed the extent to which our interpretation matched with the PERB codes. Table III-1 shows that for all but one record, AIR and PERB codes for whether there was evidence of service (i.e., presence of a log) matched, resulting in a very closely aligned compliance rate for evidence of service (89.3% to 89.4%).

Table III-1. Number of sampled service records for which AIR and PERB analysis showed agreement, by log code (n=608)

		PERB Log Code			AIR Total N
		Evidence of log	No evidence of log	Student dropped	
AIR Log Code	Evidence of log	541	0	0	541
	No evidence of log	1	64	0	65
	Student dropped	0	0	2	2
PERB Total N		542	64	2	608

Table III-2. Number and percentage of sampled service records with evidence of log, AIR and PERB, 2005-06

	Total Records (excluding dropped students)	N of Records with log	% of Records with log
AIR evidence of service rate	606	541	89.3
PERB evidence of service rate	606	542	89.4

Table III-3 shows the results for the frequency analysis on the 608 service records. The boldface figures running diagonally are the 578 records in which the AIR and PERB numbers agreed ($578 = 301 + 170 + 1 + 13 + 93$). All of the 14 records in which PERB coded as meeting (n=6) or not meeting (n=8) the frequency, but for which AIR did not identify an associated IEP frequency, were for RSP services. If the IEP (whether Welligent or paper) did not clearly associate a frequency with a specific service code, AIR coded this as a “4.” Overall, PERB found a 63.3% compliance rate for records remaining after excluding dropped students and records in which the IEP did not report a frequency, whereas the AIR estimate was 61.9%.

Table III-3. Number of sampled service records for which AIR and PERB analysis showed agreement, by frequency code (n=608)

		PERB Frequency Code					AIR Total N
		Met frequency	Did not meet frequency	Cannot determine if log met frequency	IEP does not report frequency	Student dropped	
AIR Frequency Code	Met frequency	301	1	0	0	0	302
	Did not meet frequency	2	170	0	0	8	180
	Cannot determine if log met frequency	0	0	1	0	0	1
	IEP does not report frequency	6	8	0	13	3	30
	Student dropped	2	0	0	0	93	95
PERB Total N		311	179	1	13	104	608

Table III-4. Number and percentage of sampled service records meeting IEP frequency, AIR and PERB

	Total Records (excluding dropped students and IEPs with no frequency)	N of Records meeting frequency	% of Records meeting frequency
AIR frequency compliance rate	483	302	61.9
PERB frequency compliance rate	491	239	63.3

The same exercise was completed for the duration component. As with the above frequency table, Table III-5 shows where the AIR analysis and PERB interpretation of the duration agreed and disagreed. Again, the diagonal boldface numbers indicate the matches between AIR and PERB ($572 = 300 + 158 + 2 + 10 + 102$). As with the frequency analysis, there were RSP records which PERB coded as meeting ($n=7$) or not meeting ($n=5$) the duration requirements, but for which the IEP did not clearly associate the duration and service code. Overall, PERB found that 65.0% of the logs in the sample demonstrated compliance with the IEP information, with AIR showing a 63.3% compliance rate.

Table III-5. Number of sampled service records for which AIR and PERB analysis showed agreement in duration analysis, by duration code (n=608)

		PERB Duration Code					AIR Total N
		Met duration	Did not meet duration	Cannot determine if log met duration	IEP does not report duration	Student dropped	
AIR Duration Code	Met duration	300	0	0	0	2	302
	Did not meet duration	4	158	1	0	8	171
	Cannot determine if log met duration	0	1	2	0	1	4
	IEP does not report duration	7	5	0	10	4	26
	Student dropped	1	1	0	1	102	105
PERB Total N		312	165	3	11	117	608

Table III-3. Number and percentage of sampled service records meeting IEP duration, AIR and PERB

	Total Records (excluding dropped students and IEPs with no duration)	N of Records meeting duration	% of Records meeting duration
AIR duration compliance rate	477	302	63.3
PERB duration compliance rate	480	312	65.0

The high degree of alignment between AIR’s analysis and PERB’s codes for frequency and duration for this limited sample are encouraging. Based on these comparisons, PERB’s interpretations appear to have been reasonable and consistent for a majority of the records.

Appendix A

Table A-1: Code 9: Number of Services Too Flexible to Observe by Disability, 2005-06

Disability	AIR Analysis of PERB Data 2005-06		
	N of Records Analyzed	N of Code 9s	%
Autism	59	23	39.0
Deaf/Hard of Hearing	49	11	22.4
Emotional Disturbance	29	8	27.6
Mental Retardation	54	5	9.3
Multiple Disability/Deaf-Blind	49	12	24.5
Orthopedic Impairment/ Traumatic Brain Injury	73	42	57.5
Other Health Impairment	45	9	20.0
Specific Learning Disability	42	8	19.0
Speech and Language Impairment	36	10	27.8
Visual Impairment	40	5	12.5
Total	476	133	27.9

Table A-2: Code 9: Number of Services Too Flexible to Observe by Service, 2005-06

Service	AIR Analysis of PERB Data 2005-06		
	N of Records Analyzed	N of Code 9s	%
Adaptive PE	52	3	5.8
Deaf/Hard of Hearing	33	10	30.3
Language and Speech	65	6	9.2
LRE	54	38	70.4
Mental Health	44	4	9.1
Non-Public Agency	36	22	61.1
Occupational Therapy	29	4	13.8
Physical Therapy	42	17	40.5
Pre-School	22	8	36.4
RSP	69	20	29.0
Visual Impairment	30	1	3.3
Total	476	133	27.9