

2.0 METHODOLOGY

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This section presents an overview of the methodology and sampling plan used to assess long-term effects of preschool special education programs and services. The methodology, coupled with independent, objective analysis, is intended to inform the New York State Education Department (NYSED) regarding the educational achievement, emotional well-being, social adjustment, and placement of school-aged students through grade 4 who received preschool special education programs and services pursuant to Section 4410 of the Education Law.

2.1 Preschool Longitudinal Study Advisory Committee

To assure technical soundness and in-depth consideration of stakeholders' priorities, an advisory committee was appointed in September 2000 to operate throughout the life of the project. The Preschool Longitudinal Advisory Committee (hereafter "Advisory Committee") had broad-based membership with representation from parents, educators, preschool providers, district personnel, special education and general education instructional specialists, and state leaders. **Exhibit 2-1** lists the members of the Advisory Committee and their affiliations.

The primary functions of the Advisory Committee were to review:

- study instruments and measures;
- strategies for sampling;
- procedures for district participation in data collection; and
- interim reports and study findings.

During the course of the study, annual Advisory Committee meetings were held to discuss preliminary data and make recommendations for next steps.

**EXHIBIT 2-1
PRESCHOOL LONGITUDINAL STUDY ADVISORY COMMITTEE**

NAME	AFFILIATION
Margery Ames, Esq.	Interagency Council Mental Retardation/Developmental Disabilities (MR/DD) Agencies, Inc.
Nicholas Argyros	New York State Education Department
Marita Bromberg	New York State Education Department, Special Education Quality Assurance
Ellen Burns, Dianne Apter, Nan Songer	Early Childhood Director Centers
John Cassese, Don Nickson	School Administrators Association of New York State
Cynthia Gallagher	New York State Education Department
Mary Garrett	Capital District Beginnings, Inc.
Judi Gerson	United Cerebral Palsy Associations of New York State, Inc.
Doris Jamison	New York State Education Department, Manager for Research and Planning
Marcene Basch Johnson	New York State Association for Retarded Children, Inc.
Mary Knight	New York State Education Department, Project Manager
Pamela Madeiros	Greenberg, Taurig LLP
Sally McKay	New York City Board of Education
Kerry McKillop O'Connell	Parent Representative
Mary Coppola*	New York State Conference of Local Mental Hygiene Directors, Inc.
Vacant	New York State Association of Counties
Jennifer Pyle	The Conference of Big Five Schools
Barbara Schwartz	New York University Quality Improvement Center for Disability Services
Pilar Sokol	New York State School Boards Association
Vacant	New York State Association of Counties
Patti Gallaher	New York State Association of Special Education Administrators
Lawrence Waite	New York State United Teachers
Susan Hager	United Way of Northeastern New York
Jan Strain	New York State Association of Special Education Administrators
Mary Jo Valentine	Parent Representative
Lisa Hunter	Parent Representative
Gay Petri	New York State Association of Counties

Source: Created by MGT of America, Inc., 2005.

Mary Coppola was formerly associated with the New York State Association of Counties and the New York State Department of Health.

2.2 Purpose of The Study

As described in Chapter 1.0, the study's methodology was based on key goals, objectives, and related evaluation questions; these are summarized in **Exhibit 1-1**. To determine that preschool children with disabilities received special education services that improved their performance and benefited them later in their school careers the study examined the impact of these services on student performance over time. The study inquired into the nature and intensity of services over time in relation to the categories of preschool service and the settings in which they were provided and the Need/Resources Capacity (N/RC) categories. The Need/Resource Capacity (N/RC) Code is a code indicating to which of the six Need/Resource Categories a district belongs. All districts are placed in an N/RC category based on their N/RC Index. The N/RC Index is a measure of the district's ability to meet the needs of its students with local resources. The measure is calculated by dividing a district's estimated poverty percentage by its Combined Wealth Ratio.

The Need/Resource Categories are New York City Public Schools, Large Four Districts (Buffalo, Rochester, Syracuse, and Yonkers), High Need Urban-Suburban Districts, High Need Rural Districts, Average Need Districts, and Low Need Districts. Finally, the study

also examined the relationship between placement with typical peers and the overall outcomes of students with disabilities as they progress through grades K-3.

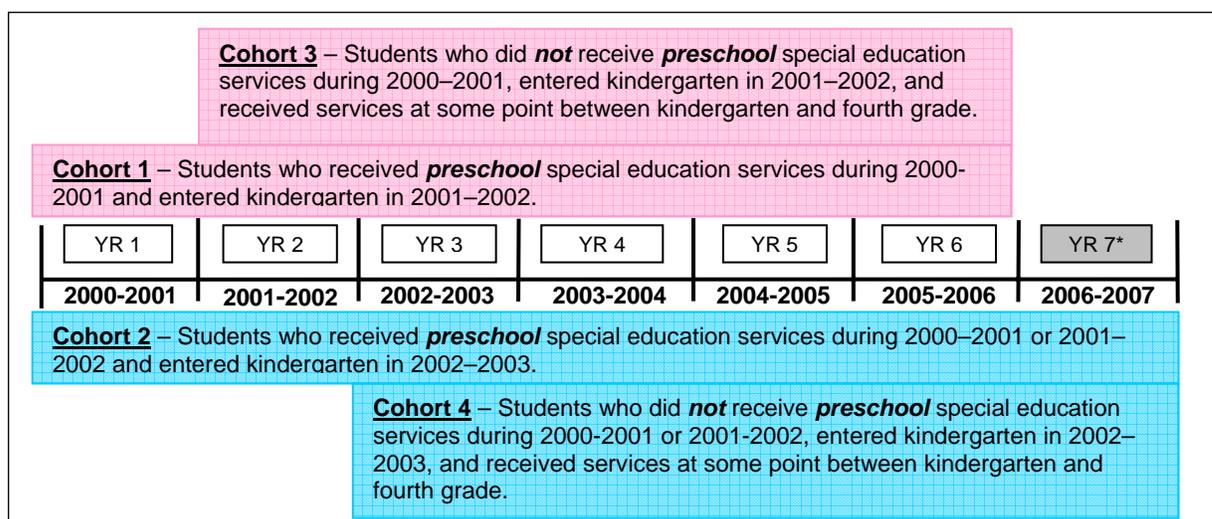
2.3 Study Cohorts

To answer the research questions, four cohorts of children with disabilities were tracked through grade 3. Two of these cohorts received preschool special education services and two cohorts did not. During Year One (2000–2001) of the study, the first two cohorts of children with disabilities who received preschool special education services during the 2000–2001 school year were identified. Cohort 1 included preschoolers with disabilities whose birthdates ranged from December 1, 1995, to December 1, 1996. Cohort 2 included preschoolers with disabilities whose birthdates ranged from December 1, 1996, to December 1, 1997. Newly identified preschoolers with disabilities were added to Cohort 2 during the 2001–2002 school year. Students with disabilities who did not receive preschool services were added to the study, gradually, to form the comparison group.

The original seven-year study was intended to track all preschool children with disabilities who were declassified prior to entering kindergarten, as well as children who remained eligible for special education during their K-4 experience. By tracking both groups of children who received preschool special education, the study also gathered information regarding children who were reclassified prior to the end of grade 4. In 2006, the decision was made to end the study at the completion of the 2005–2006 school year and to discontinue data collection for the 2006–2007 school year.

Beginning in 2001–2002, two additional cohorts were selected to capture the special education programs and placements of children who did not receive preschool special education but who met special education eligibility criteria as K-3 students. Students in Cohort 3 were initially identified during Year Two of the study (2001–2002). Students in Cohort 4 were initially identified during Year Three of the study (2002–2003). To ensure a similar sample size for each cohort in the study, the selection process for the nonpreschool special education comparison groups continued through the third grade. The anticipated sample size for the nonpreschool comparison cohorts was expected to be similar to that of the preschool special education cohorts by the third grade. The four cohorts were tracked from the time they were selected for the study through grade 3 in 2005–2006, regardless of their continued eligibility for special education. **Exhibit 2-2** provides a summary description of the study cohorts.

**EXHIBIT 2-2
LONGITUDINAL STUDY COHORTS**



Source: Created by MGT of America, Inc., 2002.

* Shading in the Year 7 box denotes cessation of data collection at the end of Year 6.

2.4 Sampling Plan

At the onset of the study, MGT proposed using a sample of 25 districts for the study. Limiting the total number of districts was necessary to allow for site visits to be made and for technical assistance to be provided to all participating districts within the study’s budget. Since New York City (NYC) and the Large Four Cities’ school districts (i.e., Buffalo, Rochester, Syracuse, and Yonkers) were viewed as integral to the study, the remaining 20 districts were to be selected to reach a targeted 10 percent sample of the preschool students with disabilities in each of the other four (N/RC) categories.

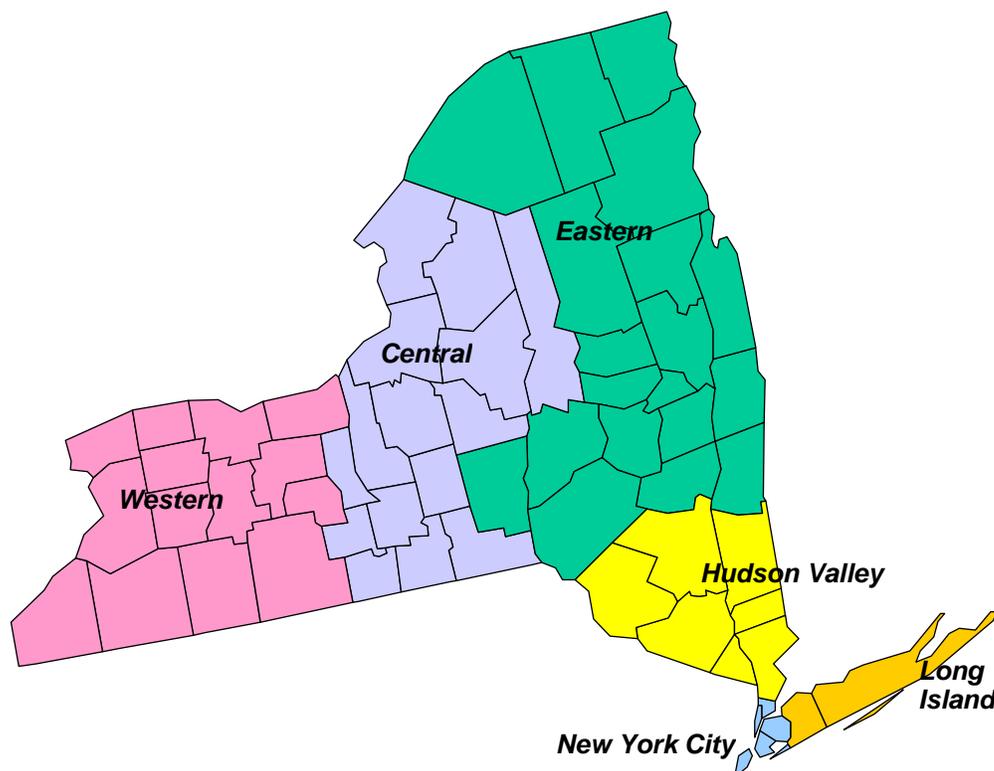
A major consideration of the sample selection process was to exclude from the universe of all potential New York State districts those districts that were less stable in terms of student mobility than any of the Large Four Cities or NYC. To project stability, the fall 1998 Public School Data Form, one of the components of the Basic Educational Data System (BEDS) was used as a proxy for student stability. The stability question was worded as follows: “Indicate the percentage of students in the highest grade in this school who were also enrolled in this school last year.”

Of the Big Five school districts in the fall of 1998, Rochester City was the least stable school district, with only 72 percent of its schools retaining more than 80 percent of their students from entry in the lowest grade to membership in the highest grade. Using this stability criterion, districts that had fewer than 72 percent of their schools retaining 80 percent of their students from the lowest grade to the highest were eliminated from the sampling pool.

A second criterion for the sample was that districts from a wide variety of geographic locations would be selected in each of the six N/RC categories. Since access to preschool special education programs and services varies across the state, location was considered a factor affecting the type and intensity of preschool special education

services. **Exhibit 2-3** displays the regional designations used to select the sample and perform subsequent analysis.

**EXHIBIT 2-3
MAP OF REGIONS IN NEW YORK**



Source: VESID, Summer 2002.

A draft sample from school districts with preschool students with disabilities participating in special education programs during the 2000–2001 school year was derived using the criteria discussed above. The sample was stratified to include adequate representation by New York City, the Large Four Cities, and the remaining four N/RC district types. The N/RC designation is used by NYSED to group districts based on their ability to meet the needs of students with local resources. Stratification of the study sample was also used to control for the economic diversity present across the State of New York.

The 10 percent statewide sample was stratified by the following six N/RC designations:

- New York City School District
- Large Four Cities School Districts
- Urban-Suburban High Need Districts
- Rural High Need Districts
- Average Need Districts
- Low Need Districts

The criteria for selecting the sample were constructed using latest available statistics on preschool students with disabilities from the PD-7 Report covering the period from

July 1, 1998, to June 30, 1999, and from data from the 2000 Chapter 655 Report, which covers the 1998–1999 school year. The PD-7 Report was used to determine the number of students needed to yield a 10 percent sample for each N/RC category.

Exhibit 2-4 displays the total number of preschool students with disabilities and the target sample size from each N/RC category. The initial sample size required to maintain the 10 percent criterion over the life of the study was projected to be 5,351 preschool students with disabilities. Following adjustments to the original sample, the final sample required the selection of two additional school districts, yielding a total of 27 school districts to achieve the 10 percent requirement in each N/RC category.

**EXHIBIT 2-4
COMPARISON OF TARGET AND ACTUAL SAMPLE SIZE
FOR EACH NEEDS/RESOURCE CAPACITY CATEGORY**

DISTRICT N/RC TYPE	PRESCHOOL STUDENTS WITH DISABILITIES	TARGETED SAMPLE *	ACTUAL SAMPLE
New York City	20,134	2,013	2,568
Large Four Cities	2,808	281	387
Urban-Suburban High Need	5,174	517	461
Rural High Need	2,930	293	249
Average Need	15,817	1,582	1,321
Low Need	6,650	665	612
Total	53,513	5,351	5,598

Source: Created by MGT of America, Inc., 2001.

* Note: The targeted sample includes 10 percent of each N/RC category based on PD-7 Report, 2000.

The final steps in the selection process included a review of the proposed sample by the Advisory Committee and selected regional and local special education administrators. Adjustments were made to the draft sample based on input from these key stakeholders. **Exhibit 2-5** displays the distribution of the 27 districts in the sample. **Exhibit 2-6** shows each district’s total student enrollment, total number of special education students, percentage of English Language Learners, percentage receiving free lunch, N/RC category, and per pupil expenditure.

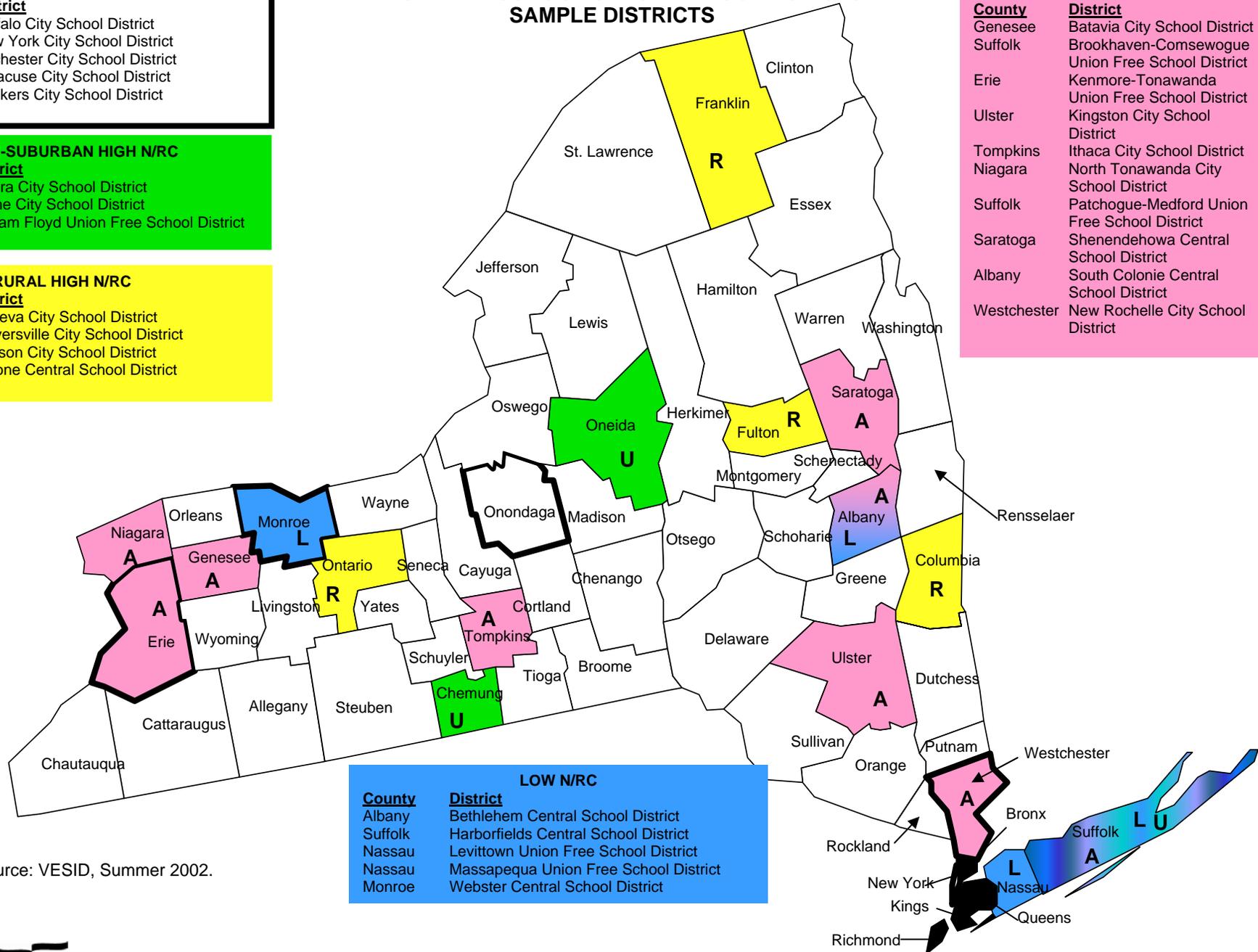
**EXHIBIT 2-5
NEW YORK PRESCHOOL SPECIAL EDUCATION STUDY
SAMPLE DISTRICTS**

BIG 5 CITIES	
County	District
Erie	Buffalo City School District
New York	New York City School District
Monroe	Rochester City School District
Onondaga	Syracuse City School District
Westchester	Yonkers City School District

URBAN-SUBURBAN HIGH N/R/C	
County	District
Chemung	Elmira City School District
Oneida	Rome City School District
Suffolk	William Floyd Union Free School District

RURAL HIGH N/R/C	
County	District
Ontario	Geneva City School District
Fulton	Gloversville City School District
Columbia	Hudson City School District
Franklin	Malone Central School District

AVERAGE N/R/C	
County	District
Genesee	Batavia City School District
Suffolk	Brookhaven-Comsewogue Union Free School District
Erie	Kenmore-Tonawanda Union Free School District
Ulster	Kingston City School District
Tompkins	Ithaca City School District
Niagara	North Tonawanda City School District
Suffolk	Patchogue-Medford Union Free School District
Saratoga	Shenendehowa Central School District
Albany	South Colonie Central School District
Westchester	New Rochelle City School District



LOW N/R/C	
County	District
Albany	Bethlehem Central School District
Suffolk	Harborfields Central School District
Nassau	Levittown Union Free School District
Nassau	Massapequa Union Free School District
Monroe	Webster Central School District

Source: VESID, Summer 2002.

**EXHIBIT 2-6
NEW YORK SPECIAL EDUCATION
SAMPLE DISTRICT CHARACTERISTICS**

DISTRICT NAME	TOTAL STUDENT ENROLLMENT¹	PERCENT ELL²	PERCENT FREE LUNCH	EXPENDITURE PER PUPIL
New York City School District				
New York School District # 3	15,315	11.9%	71.7%	\$9,467
New York School District # 7	15,244	21.2%	93.5%	\$10,117
New York School District # 10	42,516	27.0%	90.2%	\$9,344
New York School District # 13	15,857	4.5%	90.9%	\$9,295
New York School District # 18	19,946	4.0%	84.7%	\$7,943
New York School District # 27	35,345	9.4%	81.6%	\$8,411
Large Four Cities' School Districts				
Buffalo City School District	47,143	5.8%	86.3%	\$9,451
Rochester City School District	38,121	8.1%	88.8%	\$10,376
Syracuse City School District	23,671	5.7%	75.8%	\$9,569
Yonkers City School District	25,427	16.2%	68.5%	\$11,503
Urban-Suburban High N/RC Districts				
Elmira City School District	8,143	0.3%	53.4%	\$8,163
Rome City School District	6,512	0.9%	52.8%	\$10,388
William Floyd Union Free School District	9,908	1.0%	53.5%	\$10,558
Rural High N/RC Districts				
Geneva City School District	2,568	4.5%	61.5%	\$10,230
Gloversville City School District	3,374	0.1%	56.3%	\$8,943
Hudson City School District	2,484	3.4%	61.3%	\$11,000
Malone Central School District	2,730	0.2%	52.5%	\$8,650
Average N/RC Districts				
Batavia City School District	2,900	0.4%	39.8%	\$9,313
Brookhaven-Comsewogue Union Free School District	3,594	2.0%	15.3%	\$11,448
Ithaca City School District	6,075	4.8%	32.7%	\$10,395
Kenmore-Tonawanda Union Free School District	9071	0.4%	29.5%	\$10,062
Kingston City School District	8,108	0.9%	47.1%	\$10,301
New Rochelle City School District	9,654	14.3%	48.5%	\$12,612
North Tonawanda City School District	5,404	1.3%	27.2%	\$9,022
Patchogue-Medford Union Free School District	8,690	3.1%	26.1%	\$10,524
Shenendehowa Central School District	9,189	0.4%	11.3%	\$8,645
South Colonie Central School District	5,783	0.6%	18.1%	\$9,014
Low N/RC Districts				
Bethlehem Central School District	4,740	0.9%	5.2%	\$9,771
Harborfields Central School District	3,025	1.7%	6.7%	\$11,315
Levittown Union Free School District	7,503	1.3%	7.5%	\$11,973
Massapequa Union Free School District	7,324	0.1%	3.5%	\$11,411
Webster Central School District	7,999	1.3%	9.2%	\$8,843

Source: New York State Education Department, 2000–2001.

¹ Chapter 655 reported to NYSED, 2000; 1999–2000 Annual District Report, Division of Assessment and Accountability.

² English Language Learners.

2.4.1 Assumptions of the Sampling Plan

Two assumptions were made in developing the sample. The first was that it was feasible to use the latest available (1998–1999) statistics to draw the sample because the population of preschool students with disabilities in New York was relatively stable.

According to State PD-7 reports, the total number of preschool students with disabilities decreased by only 95 students (0.18%) from 1997–1998 to 1998–1999. Thus, one would expect the total preschool population of students with disabilities for a given school year to be approximately what it was two years prior.

A second assumption was that about 12 percent of the sample would be lost through attrition during each study year. The initial 10 percent sample yielded a baseline of approximately 5,350 preschool students with disabilities who could be tracked beginning in 2000–2001. Assuming a 12 percent annual attrition rate over the course of the study, the sample number would decrease by no more than one-half of the baseline sample to 2,675 students by the end of the tracking period. All students were tracked for all cohorts through grade 2 and for Cohorts 1 and 3 through grade 3. **Exhibit 2-7** displays the projected attrition of the study sample.

**EXHIBIT 2-7
PROJECTED AND ACTUAL ATTRITION OF THE SAMPLE**

	COHORT 1	COHORT 2	PROJECTED	ACTUAL
2000–2001 Status of Students	4-Year-Olds	3-Year-Olds		
Number in Initial Preschool Sample	2,470	2,880	5,350	5,598
Number Tracked Through Grade 4	1,337	1,338	2,675*	N/A

Source: Created by MGT of America, Inc., 2001.

*For the full population of preschool students with disabilities, a simple random sample size of 1,046 was needed to provide a 95 percent confidence level with a +/-3 percent error rate.

2.4.2 Specifications for 10 Percent Sample Within Districts

All students attending preschool during 2000–2001 in the Urban-Suburban High Need Districts, the Rural High Need Districts, the Average Need Districts, and the Low Need Districts were selected for Cohorts 1 and 2. In the Large Four Cities, a 10 percent sample was selected randomly from the total number of students. In New York City, six representative districts were chosen using the same criteria as for the state as a whole. **Exhibit 2-8** shows the New York City sample specifications. Because the data in **Exhibit 2-8** includes five-year-olds, the number shown for New York City in **Exhibit 2-9** is approximately one-third less since it includes only two of the three age groups.

**EXHIBIT 2-8
PROJECTED NEW YORK CITY SAMPLE**

DISTRICT	NUMBER OF PRESCHOOL STUDENTS	RELATED SERVICES ONLY	SEIT ONLY	RELATED SERVICES AND SEIT	SPECIAL CLASS INTEGRATED SETTING	SPECIAL CLASS SEGREGATED SETTING
Manhattan 3	443	24.83%	0.90%	27.31%	6.55%	40.41%
Bronx 7	443	11.06%	0.90%	4.29%	23.48%	60.27%
Bronx 10	1,310	19.24%	0.61%	3.82%	14.58%	61.76%
Brooklyn 13	360	17.22%	3.33%	12.22%	18.61%	48.61%
Brooklyn 18	355	10.99%	3.66%	7.89%	18.03%	59.44%
Queens 27	969	20.23%	0.52%	5.68%	16.20%	57.38%
Total	3,880					

Source: Chapter 655 and PD-7 data reported to State of New York, 2000.

Note: Data represent students ages 3-5 as reported on the PD-7 as of June 30, 1999.

2.4.3 Sample Characteristics at the End of Preschool: Representation

Exhibits 2-9 and 2-10 report selected demographic characteristics and the extent to which study participants in Cohort 1 and Cohort 2 participated in the State’s Early Intervention Program (EIP). A major challenge in examining the outcomes of students is the ability to continue to gather student data over time. Exhibit 2-11 tracks the status of preschool special education students who remained in the study in the transition from preschool special education to kindergarten.

**EXHIBIT 2-9
GENDER AND ETHNIC DISTRIBUTION OF
PRESCHOOLERS WITH DISABILITIES IDENTIFIED FOR STUDY**

	GENDER			ETHNICITY					
	N VALUE	MALE	FEMALE	N VALUE	AMERICAN INDIAN OR ALASKAN NATIVE	ASIAN OR PACIFIC ISLANDER	BLACK	HISPANIC	WHITE
New York City	2,559	71%	29%	2,559	0%	8%	38%	40%	14%
Large 4	358	72%	28%	358	3%	2%	44%	19%	32%
Urban-Suburban High Need	457	73%	27%	457	0%	1%	9%	3%	87%
Rural High Need	250	68%	32%	250	0%	0%	17%	8%	75%
Average Need	1,267	67%	33%	1,349	1%	1%	7%	8%	83%
Low Need	559	69%	31%	589	0%	1%	2%	1%	96%
All Districts Excluding Big 5	2,533	69%	31%	2,667	0%	1%	7%	6%	86%
All Districts	5,450	70%	30%	5,557	0%	4%	24%	23%	49%

Source: NYSED and School District Student Records, 2000.

**EXHIBIT 2-10
NUMBER AND PERCENTAGE OF PRESCHOOLERS IN THE STUDY WHO
RECEIVED ENGLISH-ONLY INSTRUCTION AND BIRTH-3 EARLY INTERVENTION
SERVICES**

	ENGLISH ONLY		RECEIVE BIRTH-3 EARLY INTERVENTION SERVICES	
	N	%	N	%
New York City	2,117	75%	2,055	73%
Large 4	383	96%	318	41%
Urban-Suburban High Need	383	100%	383	20%
Rural High Need	249	100%	226	24%
Average Need	1,346	98%	1,308	38%
Low Need	603	100%	577	38%
All Districts Excluding Big 5	2,581	99%	2,505	34%
All Districts	5,056	89%	2,820	22%

Source: NYSED and School District Student Records, 2000.

**EXHIBIT 2-11
OVERVIEW OF PRESCHOOLERS WITH DATA AS KINDERGARTENERS**

Need/ Resource/Capacity Category	Original Preschool Sample	Preschoolers Whose Status Was Unknown/Unreported in Kindergarten		Preschoolers Who Moved and Were No Longer in the Study by Kindergarten		Preschoolers Who Were Declassified by Kindergarten		Preschoolers Whose Kindergarten Placement Was Known	
		N	Percentage	N	Percentage	N	Percentage	N	Percentage
New York City	2568	0	0%	11	0%	364	14%	2193	85%
Large 4	387	30	8%	46	12%	66	17%	245	63%
Urban-Suburban High Need	461	20	4%	54	12%	174	38%	213	46%
Rural High Need	249	8	3%	24	10%	83	33%	134	54%
Average Need	1321	62	5%	96	7%	471	36%	692	52%
Low Need	612	46	8%	24	4%	166	27%	376	61%
N/RCs Excluding Big 5	2643	136	5%	198	7%	894	34%	1415	54%
Total Sample	5598	166	3%	255	5%	1324	24%	3853	69%
Region	Original Preschool Sample	Preschoolers Whose Status Was Unknown/Unreported in Kindergarten		Preschoolers Who Moved and Were No Longer in the Study by Kindergarten		Preschoolers Who Were Declassified by Kindergarten		Preschoolers Whose Kindergarten Placement Was Known	
		N	Percentage	N	Percentage	N	Percentage	N	Percentage
New York City	2568	0	0%	11	0%	364	14%	2193	85%
Central	407	30	7%	55	14%	115	28%	207	51%
Western	876	38	4%	74	8%	338	39%	426	49%
Hudson	381	18	5%	7	2%	125	33%	231	61%
Eastern	506	23	5%	38	8%	168	33%	277	55%
Long Island	860	57	7%	70	8%	214	25%	519	60%
Total Sample	5598	166	3%	255	5%	1324	24%	3853	69%

Source: MGT of America, Inc., New York Preschool Special Education Study database, 2001 and 2002; and MGT of America, Inc. New York kindergarten Special Education database, 2002 and 2003.

In terms of sample representation of the population of special education students, the purpose of selecting a stratified random sample is to ensure that there are sufficient numbers of students available to the study in selected strata considered important to the study. Within these strata or categories—for instance, gender of selected students by N/RC—the percentage of white students in the sample selected from the New York N/RC, for example, does not need to be identical to their percentage representation in the population as long as the number of students selected for the study sample is sufficient to permit the conclusion that their characteristics as preschool special education students are representative of the characteristics of the preschool special education population for the period of the study. According to sampling theory, this is assumed with 95 percent confidence if student selections were made randomly within characteristics categories of interest (i.e., strata), as was the case in this study. Nevertheless, due to the rigorous selection methodology applied for this study, based on characteristics comparisons of the final preschool sample with the population of special education preschoolers for the period of selection, the stratified sample methodology achieved a high degree of representation of the population in many instances in terms of both percentages and numbers of students.

In addition to the sample characteristics reported in **Exhibits 2-9** through **2-11** above, Chapter 3.0 presents a more detailed discussion of characteristics in Exhibits 3-10 through 3-12. Percentages of student by gender reported in **Exhibit 2-9** by N/RC were comparable to population percentages reported in Exhibit 3-10 and consistent with national male/female rates, ranging from 67 percent to 73 percent depending on the N/RC category of the district. Likewise, minority student rates reported in **Exhibit 2-10** were representative of population rates reported in Exhibit 3-10. Numbers and percentages of students who were non-English speakers and for students who received

birth-to-3 preschool services in each N/RC (**Exhibit 2-11**) were of sufficient size to assume representation of the population of special education students as a whole (also see Exhibits 3-11 and 3-12).

As reported in Chapter 3.0, when statewide data were compared with the study sample's data reported by PD-1/4 preschool service setting and N/RC district categories, Exhibit 3-14 indicates that aggregate percentages of the sample districts ("All Districts") fairly approximated statewide percentages. That is, the preschool special education samples for both cohorts were representative of the preschool populations with modest and (statistically) insignificant variations from the statewide data for placements in only two settings-- Early Childhood Settings and Early Childhood Special Education Settings. Otherwise, for most PD-1/4 setting categories, percentages for subsamples in each combination of setting and N/RC tended to approximate, within acceptable limits, statewide percentages for the 2000-2001 academic year (from which the Cohort 1 sample was drawn) and the 2001-2002 academic year (from which the Cohort 2 sample was drawn).

In Exhibit 3-15, regionally, the aggregate of the sample districts ("All Districts") was acceptably representative of the statewide data when presented by PD-1/4 preschool service setting and region, despite some deviations within certain setting and region combinations (e.g., 72% of students in the Central region received preschool services in an Early Childhood Setting compared with 38% in the population). As with the case of preschool settings within N/RC districts reported in Exhibit 3-14, with some exceptions, most subsamples in each combination of PD-1/4 setting and region tended to approximate statewide percentages within acceptable limits. And, again, because the study sample was drawn randomly, the study sample's aggregate representation of the statewide population was not threatened by these deviations.

Finally, when sample data were compared with statewide data for preschool students within PD-7 preschool service categories both by N/RC district categories (Exhibit 3-16) and by region (Exhibit 3-17), aggregated sample percentages ("All Districts") by PD-7 service category more closely approximated statewide percentages than in the cases of the PD-1/4 by N/RC and by region comparisons.

2.5 Data Collection Plan

A variety of data collection strategies were used to conduct the seven-year study. Due to the lack of individualized student data available from state databases, the primary means of data collection was an individualized student information form, called the "Student Information Profile". Additional information was collected through surveys, site observations, interviews, and focus groups with teachers, administrators, preschool providers, parents, and other key stakeholders.

Through the study's Web site, password-protected electronic databases secured by VeriSign were developed to store the student data from each sample district. These student record databases were updated annually based on the Student Information Profiles.

Student Information Profiles: In conjunction with the Advisory Committee, the Preschool Student Information Profile was developed to collect baseline individual student data on the following:

- student characteristics;
- placement history;
- scope and intensity of services; and
- interactions with typical peers.

This profile used many of the same data elements for demographic and placement information as the PD form series used by NYSED annually to collect data regarding special education. Several variables for the study had to be derived from individual student records. To complete the annual Student Information Profiles, sample districts submitted a snapshot of their special education service data as of December 1 and June 30 of each school calendar year. To maximize comparisons with other state databases, these dates coincided with other State and federal reporting periods.

The Preschool Student Information Profile was used during 2000–2001 and 2001–2002 to determine the nature and type of preschool special education services provided to each student in Cohorts 1 and 2. After the students entered kindergarten (beginning in the 2001–2002 school year for Cohort 1), student information was collected by a similar student information profile geared toward the special education supports and services in grades K-4. **Exhibit 2-12** provides an overview of the timeline for the profiles for each study cohort. A copy of the Preschool Student Information Profile form and the Kindergarten Student Information Profile form are provided in Appendix A.

**EXHIBIT 2-12
SCHEDULE FOR STUDENT INFORMATION PROFILES**

SCHOOL YEAR	COHORT 1	COHORT 2	COHORT 3	COHORT 4
2000–2001	Preschool Student Information Profile	Preschool Student Information Profile	X	X
2001–2002	Student Information Profile	Preschool Student Information Profile	Student Information Profile	X
2002–2003	Student Information Profile	Student Information Profile	Student Information Profile	Student Information Profile
2003–2004	Student Information Profile	Student Information Profile	Student Information Profile	Student Information Profile
2004–2005	Student Information Profile	Student Information Profile	Student Information Profile	Student Information Profile
2005–2006	X	Student Information Profile	X	Student Information Profile

Source: Created by MGT of America, Inc., 2000.

Over the course of the study, the sample districts that used computerized data management systems to manage and organize data about the individual services provided to students with disabilities changed their vendor. MGT worked with each of these vendors to electronically extract the data necessary for the analysis of student placements and service intensity. The 27 sample districts participated annually in the validation of data collected and provided additional information as needed to complete the Student Information Profiles.

Site Visits: MGT site visits consisted of two approaches. The first involved gathering qualitative information about the programs and services received by students in the study. Secondly, MGT teams visited district schools to search for data missing from Student Information Profiles and to validate data received.

2.5.1 Data Validation and Records Review

Throughout subsequent years of the study, as MGT received data from districts, a data quality assurance procedure was implemented to follow-up with districts when student data was incomplete or missing. In such instances for a given school, data verification reports were sent annually to districts for each student for whom information had not been reported, requesting that they provide student data when available and return this information to MGT, where it was entered into MGT's student data base. As a quality control measure for the last three years of the study, MGT research teams conducted on-site visits to school district offices in an effort to gather any remaining missing data by reviewing individual student folders.

2.5.2 Interviews, Surveys and Focus Groups

Provider Interviews: During Year One, the 27 sample districts received on-site orientation to the study and training in administering the study's data collection plan. MGT visited each site during Year Two to interview a sample of preschool providers about their program. Results of the Year Two provider interviews and focus groups appear in Chapter 4.0. Follow-up on-site interviews and focus groups with K-4 personnel were conducted during each year of the study.

Parent Satisfaction Surveys and Focus Groups: Another component of the study was to determine parents' perceptions of their children's experience in preschool special education. In collaboration with MGT and NYSED staff, MAGI Educational Services designed and implemented a parent study. Comprehensive parent satisfaction surveys were conducted in Year Two when preschool special education students in the study had just begun or were about to transition to kindergarten. Following completion of the parent surveys, parent focus groups were conducted at selected locations. The survey solicited parents' opinions on variables expected to be influenced by a high-quality preschool special education program, such as the following:

- Student performance
 - Achievement
 - Attitude
 - Behavior
- Transition to school-aged program
- Placement decisions
- Due process experiences
- Opportunities for parent involvement
- School systems' sensitivity to special needs of children
- Communications with teachers/administrators

A second parent study planned for Year Five was eliminated in favor of more on-site data collection with the 27 participating districts. Findings of both the survey and focus groups are discussed in Chapter 3.0.

Follow-up Studies: To ensure adequate verification of the data collected at the 27 study sites (triangulation), preschool special education providers were asked to provide detailed information about their programs and services. MGT also conducted a secondary analysis of the provider survey completed as part of the Quality Indicator Study. Based on the survey analysis, a sample of preschool providers was interviewed during Year Two of the study. The results of the follow-up study with preschool providers are discussed in Chapter 4.0 of this report. A second follow-up study was conducted with chairs of Committees on Preschool Education (CPSE) and Committees on Special Education (CSES) and a sample of administrators and teachers in each of the 27 districts through surveys and focus groups. The purpose was to gain an in-depth understanding of the K-4 instructional setting where study participants received special education services.

Outcome Data: During Years Two through Five of the study, MGT worked with districts to administer three outcome measures to students in both the preschool special education service sample and the sample of students who did not receive preschool special education services as part of the effort to assess the impact of preschool special education services on student academic, emotional, social, and motor development. Three outcome measures were selected with the input of the Longitudinal Study Advisory Committee. These outcome measures became known as the three-part (A, B, and C) “Teacher Packet” because teachers provided the outcome data about students by completing the Teacher Packet annually near the end of the school year.

Appendix D shows the Teacher Packet that teachers completed when students in the study were in the third grade. Although the reader is encouraged to review Appendix D for details, a brief summary of the three parts of the teacher packet is presented below.

- Part A: Participation in the General Education Classroom examined four domains:
 - Language and literacy development
 - Personal and social development
 - Cognitive and academic development
 - Physical development

For each of these four domains, Part A assessed the amount of assistance in the General Education classroom setting that students in the study required from their teachers beyond that which is typically provided to all students.

- Part B: The Teacher-Child Rating Scale allowed teachers to indicate their level of agreement with each of the 32 statements describing the child. The Teacher-Child Rating Scale measured four primary areas with eight statements per area (see Appendix D):
 - Task Orientation
 - Behavior Control
 - Assertiveness
 - Peer Social Skills

- Part C: *Work Sampling System (WSS®)*. examined three domains based on established standards in a developmental checklist:
 - Personal and Social Development
 - Language and Literacy
 - Mathematical Thinking

The normative sample for the Teacher-Child Rating Scale (T-CRS) included 700 children in kindergarten through eighth grade (with the highest concentration within first through sixth grades). Most of the sample was drawn from New York and Texas. Nineteen other states were also represented in the sample. Nearly two-thirds of the participants were White (66%). Most of the remaining students were Hispanic (17%) or African American (13%) with Asian (2%), Native American (1%), and Other (2%) ethnicities making up a small percentage of the normative sample. The normative sample was rated by their teachers on the T-CRS. Analyses were conducted to determine if there were significant differences on the T-CRS subscales by gender and locale (urban, suburban, and rural) and whether findings for gender varied by locale (gender by locale interaction). Results indicated that females had significantly higher scores on each of the scales as compared to males. Normative tables providing percentile ranks by gender and locale for each subscale are provided in the T-CRS Examiner's Manual (Perkins & Hightower, 2001¹).

Research has established the reliability and validity of the Work Sampling System (WSS), a curriculum-embedded, continuous progress performance assessment system (Meisels, Liaw, Dorfman, & Nelson, 1995²; Meisels, Bickel, Nicholson, Xue, Atkins-Burnett, 2001³). High internal reliability and moderately high inter-rater reliability were found for the WSS with a sample of kindergartners. Strong criterion validity was also found for this sample with the WSS in predicting variation in norm-referenced achievement battery above and beyond the effects of background factors and initial performance. Another study examining the validity of teacher judgments on the WSS for a sample of K-3 students also found evidence for criterion validity of the WSS. In this study, the WSS significantly predicted scores on a norm-referenced achievement measure even after controlling for background factors (for K-3) and initial performance (for K-2). The rationale for why the WSS did not predict the criterion measure above initial status for third graders was that the standard scores on the norm-referenced criterion measure began to stabilize starting in third grade and therefore there was little variation in those scores beyond the student's initial performance. Stated differently, there was less variation available to be predicted by the WSS on the norm-referenced test after controlling for initial status in third grade.

Because standardized test results were not available for the students in this study, the WSS provided the best available data about the behavioral and academic development of these students and allowed statistical analyses to be performed to compare the achievement of students experienced different special education services.

Outcomes and findings are discussed in Chapter 5.0. An overview of primary data sources and the data collection schedule are shown in **Exhibit 2-13**.

¹ Perkins, Pamela E., & Hightower, A. Dirk (2001). *Teacher-Child Rating Scale 2.1 (T-CRS 2.1) Examiner's Manual*. Rochester, NY: Children's Institute Inc.

² Meisels, S.J., Liaw, F.R., Dorfman, A., & Nelson, R.N. (1995). The Work Sampling System: Reliability and Validity of a Performance Assessment for Young Children. *Early Childhood Research Quarterly*, 10, 277-296.

³ Meisels, S.J., Bickel, D.D., Nicholson, J., Xue, Y., & Atkins-Burnett, S. (2001). Trusting Teachers' Judgments: A Validity Study of a Curriculum-Embedded Performance Assessment in Kindergarten to Grade 3. *American Educational Research Journal*, 38, 73-95.

**EXHIBIT 2-13
PRESCHOOL SPECIAL EDUCATION LONGITUDINAL STUDY
DATA COLLECTION PLAN**

TYPE OF DATA COLLECTION	YEAR OF STUDY					
	ONE	TWO	THREE	FOUR	FIVE	SIX
COHORT 1	PRE-K	K	1	2	3	4
1. Student Information Profiles	3	3	3	3	3	3
2. Site Visits:						
■ Interviews/Focus Groups		3				3
■ Data Validation/Folder Review				3		3
3. Parent Studies		3				
4. State Data Review	3	3	3	3	3	3
5. Follow-up Studies:						
■ Provider Questionnaires		3				
■ CPSE/CSE Questionnaires						3
6. Outcome Data:						
■ Teacher Packets		3	3	3	3	3
■ Grade 4 NYS Tests						3
COHORT 2	PRE-K	PRE-K	K	1	2	3
1. Student Information Profiles	3	3	3	3	3	3
2. Site Visits:						
■ Interviews/Focus Groups		3				3
■ Data Validation/Folder Review				3		3
3. Parent Studies		3			3	
4. State Data Review	3	3	3	3	3	3
5. Follow-up Studies:						
■ Provider Questionnaires		3				
■ CPSE/CSE Questionnaires						3
6. Outcome Data:						
■ Teacher Packets			3	3	3	3
■ Grades 3 and 4 NYS Tests						3

**EXHIBIT 2-13 (Continued)
PRESCHOOL SPECIAL EDUCATION LONGITUDINAL STUDY
DATA COLLECTION PLAN**

TYPE OF DATA COLLECTION	YEAR OF STUDY					
	ONE	TWO	THREE	FOUR	FIVE	SIX
COHORT 3	PRE-K	K	1	2	3	4
1. Student Information Profiles		3	3	3	3	3
2. Site Visits:						
■ Interviews/Focus Groups		3				3
■ Data Validation/Folder Review				3		3
3. Parent Studies						
4. State Data Review		3	3	3	3	3
5. Follow-up Studies:						
■ Provider Questionnaires						3
■ CPSE/CSE Questionnaires						
6. Outcome Data:						
■ Teacher Packets		3	3	3	3	3
■ Grade 4 NYS Tests						3
COHORT 4	PRE-K	PRE-K	K	1	2	3
1. Student Information Profiles			3	3	3	3
2. Site Visits:						
■ Interviews/Focus Groups		3				3
■ Data Validation/Folder Review				3		3
3. Parent Studies						
4. State Data Review			3	3	3	3
5. Follow-up Studies:						
■ Provider Questionnaires						3
■ CPSE/CSE Questionnaires						
6. Outcome Data:						
■ Teacher Packets		3	3	3	3	3
■ Grades 3 and 4 NYS Tests						3

Source: Created by MGT of America, Inc., 2000.