A Study of the Effects of an Inclusion Model on Students with Specific Learning Disabilities

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The effects of an inclusion program in Grades 2 to 5 were examined in a three-part study focusing, respectively, on the academic and affective outcomes of fifth-grade students who were normally achieving (NA) or showed specific learning disabilities (SLD); teacher and parent perceptions of SLD and NA students' growth in an inclusion context for Grades 2 to 4; and an analysis of anecdotal records. Findings suggested that students with SLD made some academic and affective gains at a pace comparable to that of NA students; parent and teacher surveys indicated improved self-esteem in students with SLD, and, in some cases, improved motivation. Anecdotal data suggested reduced stigma for students with SLD.

A significant trend in recent school reform has been the movement to serve children with learning disabilities (LD) in the general classroom as an alternative to providing services in self-contained classrooms or pull-out programs (Sailor, 1991). Such a trend is consistent with the intent of the Education for All Handicapped Children Act of 1975 (Public Law 94-142), which mandates that all children with handicaps be educated in the least restrictive environment to the maximum extent possible. Recently published literature in the area of special education shows increased recommendations for inclusive educational programming, in an attempt to improve the quality of learning opportunities for both normally achieving students and students with disabilities (see, e.g., Hardie, 1993; Nathanson, 1992; Salisbury, 1991). Teachers and staff involved in providing services using the alternative “inclusion” services model often assert that students with disabilities thrive in the stigma-free environment, demonstrating academic and social-emotional growth.

The present article reports the results of a comprehensive evaluation investigating the effectiveness of an inclusive educational program for elementary students with specific learning disabilities (SLD). The program was initiated 2 years prior to the study at the school that served as the center for the investigation. Our purposes for conducting the study were primarily formative, in that we hoped to provide program administrators with information to support decisions on possible program improvement and expansion within the school district.

The Meaning of Inclusion

The concept of inclusive educational programming is based on the premise that children of exceptional abilities and backgrounds benefit both academically and socially in a learning environment where they are served alongside normally achieving students, as opposed to being segregated from them. There is no single inclusion approach; rather, various approaches to inclusive schooling have been applied for gifted and nongifted students with exceptional needs. Sometimes referred to in the literature as “mainstreaming” (Salisbury, 1991), a large number of programs in North American schools and school systems are currently attempting to implement inclusive approaches, on both small and large scales.

In a very broad sense, inclusion represents a philosophy that promotes the participation of children with disabilities in all aspects of school and
community life. Thus, the Council for Exceptional Children (1993) posited that "the concept of inclusion is a meaningful goal to be pursued in our schools and communities... Children, youth and young adults with disabilities should be served whenever possible in general education classrooms in inclusive neighborhood schools and community settings" (Supplement). The CEC paper went on to state that such settings should be supported by specially trained personnel and specific practices that fit the individual needs of the child.

In a narrower sense, inclusion refers to specific components and strategies that are essential to the corresponding educational delivery models. For instance, Sailor (1991) defined the full inclusion program as a model of service delivery having the following six characteristics in school systems:

1. All students attend schools to which they would go if they had no disability.
2. A natural proportion of students with disabilities occurs at each school site.
3. A zero rejection philosophy exists so that typically no student would be excluded (from educational opportunities) on the basis of type and extent of disability.
4. School and general education placements are age and grade appropriate with no self-contained, special education classes operative at school sites.
5. Cooperative learning and peer instructional methods receive significant use in general instructional practice.
6. Special education supports are provided within the context of the general education class. (p. 10)

The latter definition assumes that program planning and delivery is the shared responsibility of general and specially trained instructional staff who provide program services.

Although some authors use the terms inclusion, mainstreaming, and integration interchangeably to refer to the practice of serving students with and without disabilities in the same settings on a part- or full-time basis, Salisbury (1991) made a distinction between "integrated" and "inclusive" services based on social and cultural realities in the realm of practice. In her description, an integrated educational setting continues to separately identify the mainstream and special groups, with the latter being allowed to participate in only some mainstream opportunities and being excluded from certain other age-appropriate activities. On the other hand, inclusion settings, she maintains, are driven by the philosophy that "the diverse needs of all children (can be) accommodated to the maximum extent possible within the general education curriculum" (Salisbury, 1991, p. 147).

Collaborative teaching and shared planning among mainstream and special education teachers are seen as critical elements of inclusion programs at a large number of sites (Fox & Williams, 1991; Kansas State Board of Education, 1992; O'Brien et al., 1989). Family and community involvement in program planning and delivery is another commonly reported feature.

A large body of literature addresses various forms of inclusive programming that have been tried out in American public schools; the arguments supporting the approach are based on philosophical as well as empirical grounds. Recent studies that have investigated the effectiveness of one or more aspects of inclusion programs could be placed in the following three categories: studies examining students' academic outcomes, studies examining students' affective or social-behavioral outcomes; and studies or documents focusing on program processes and delivery. A majority of the studies have employed primarily quantitative methods, with some authors concluding that inclusion or integrated services have beneficial effects on both students with SLD and normally achieving students.

**Academic Outcomes**

Affleck, Madge, Adams, and Lowenbraun (1988) compared reading, mathematics, and language achievement data of elementary students with learning disabilities served in a pull-out resource program versus an "integrated" program, and found no significant differences among students with SLD served in the two settings. They concluded that the integrated model is at least as effective as the resource model, from an academic standpoint, and more in keeping with the concept of providing services in the least restrictive environment. The same authors compared the performance of students without learning disabilities placed in integrated and mainstream education programs and also reported no significant differences between the two groups, suggesting that normally achieving students are not adversely affected by being placed among students with LD. One third of the students in the integrated classrooms in these studies had mild handicaps and were supported by a highly structured program delivered by teachers in mainstream and special education.

Preliminary data from the Collaborative Education Project (Salisbury, Evans, Palombo, & Veech, 1990), which employed the full inclusion model described earlier in this article, suggested positive social and academic outcomes for students with and without disabilities.

Truesdell and Abramson (1992) examined the relationship between classroom behaviors and final grades of mainstreamed elementary students with and without disabilities, and reported significant correlations for all academic behaviors except homework and attendance. They also reported increased levels of participation in academics for both groups of students. In an earlier ethnographic study of mainstreamed services, Truesdell (1985) reported that teachers saw successes in a wide range of academic behaviors such as attendance, homework, attention, participation, and test
scores, in students with learning disabilities.

Affective or Social–Behavioral Outcomes

Madge, Affleck, and Lowenbraun (1990) used peer ratings to assess the social status of students with and without learning disabilities in an integrated classroom model. They reported that the special education students had a significantly lower social status compared to their peers with no disabilities, but concluded that the integrated classrooms provided better opportunities for special education students to blend in socially with their peers.

Clever, Bear, and Juvonen (1992) attempted to compare the self-perceptions of children with LD with those of their low-achieving or normally achieving peers in an integrated classroom. Their findings showed the lowest self-perceptions of scholastic achievement in the students with LD.

On the other hand, Jenkins and Heinen (1989) surveyed elementary students' preferences about where and from whom they received instruction for learning difficulties. The authors concluded that regardless of the students' typology (general, remedial, or special education), they preferred not to draw attention to their learning problems, and would rather receive help from their classroom teacher than from a specialist (a finding that would support use of the inclusion approach, whereby special teachers are not separately identified from general teachers).

Program Processes and Delivery

Some articles provide guidelines for implementing inclusion programs (e.g., Fox & Williams, 1991; Kansas State Board of Education, 1992; O'Brien et al., 1989), but relatively few are systematic studies of program processes or service delivery. Halvorson et al. (1992) designed a needs-assessment instrument to support development of inclusion/integration programs. This instrument focuses on a wide range of domains, including compliance with legal requirements, planning, staffing, student selection and placement criteria, staff development, and peer interaction strategies. The application of cooperative learning as a specific strategy in inclusion programs was studied by O'Connor and Jenkins (1993), who provided recommendations for ensuring its success.

As is evident from the literature, inclusive programs vary greatly in operational definition, and their effects, when conclusive, are difficult to generalize to particular settings. Findings are typically interpreted as positive if students with disabilities are approaching the performance levels of students without disabilities in an inclusion or integrated context (Truesdell & Abramson, 1992), or when there are no statistically significant differences among students with SLD served in inclusion and noninclusion contexts (Affleck et al., 1988). Few empirical studies reviewed provided a comprehensive look at program processes as they relate to student outcomes. Few applied multimethod approaches to evaluating the programs. The purpose of the present study, therefore, was to attempt an in-depth look at multiple outcomes of an inclusion program using quantitative and qualitative approaches in a complementary manner.

Method

Setting

The study was conducted in Seven Springs Elementary School, located in the Pasco County School District in west-central Florida (approximately pop. 37,000). Elementary students with SLD in Grades 2 to 4 were served with normally achieving (NA) students in inclusive, mixed-grade pods called "houses." (A pod consists of four classrooms with a central, common work-area.) Each pod was taught by a team of four teachers, with a specialized teacher in SLD serving as a fifth member of the team. Students with SLD in Grade 5 were placed in an inclusion classroom with general education peers, with the SLD teacher coteaching with the general education teacher, assisting both students with SLD and NA students as needed. Instructional planning and intervention were decided on collaboratively by the teacher teams in both settings.

A full inclusion model, as described by Sailor (1991), was not operational at the school district or site for the study, although several of its features were present; namely, all students were provided with an age- or grade-appropriate curriculum in the inclusion classroom/house, no children were excluded from any available educational opportunity, cooperative learning and peer instructional strategies were often used, and special education support staff were provided in the general classroom/house. As it applies to the present study, the inclusion model also included teams teaching and mixed-grade grouping of students in "houses" in the Grade 2 to 4 setting, and the use of a literature-based approach in teaching language arts, with an integration of reading, writing, listening, and speaking skills during instruction for all grade levels.

Definition of SLD

In this study, specific learning disability is defined as:

a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. Disorders may be manifested in listening, thinking, reading, talking, writing, spelling, or arithmetic, but do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, to emotional disturbance, or to environmental deprivation. (District School Board of Pasco County, 1993, p. 166)
All students with SLD in the inclusion pod were identified as such through formal, state-approved assessment procedures. Such children exhibited discrepancies of 1 standard deviation or more between an intellectual standard score and an academic standard score in reading, writing, arithmetic, or spelling. Intellectual assessments were based on performance on the Wechsler Intelligence Scale for Children-Third Edition (WISC III; Wechsler, 1991). Academic performance was determined based on the Kaufman Test of Educational Achievement (Kaufman & Kaufman, 1985).

**Evaluation Design**

The evaluation was conducted in three parts, the intent being to examine all relevant facets of the program from different perspectives and systematically triangulate gathered evidence from various sources to arrive at conclusions regarding the quality of the program. The first part of the study examined program effects on selected student attributes using a longitudinal design, and focused on a fifth-grade student sample. The second part employed a survey to gather information on teacher and parent perceptions of program effectiveness in Grades 2 to 4. The third and final part of the study was based on an analysis of anecdotal information collected by teachers and staff (in a “great moments” folder) on students served in inclusion settings in Grades 2 to 5. In the sections that follow, each part of the evaluation is addressed in detail, describing the participants, instruments or data-gathering techniques, and analyses employed.

**Part 1: Program Outcomes on Fifth-Grade Sample.** To examine program effects, students with SLD in fifth grade were compared to their classmates without learning disabilities on attitude toward school, motivation, self-concept, and academic performance in reading and writing. Academic performance was compared within groups at two points in time during the school year. The first measurement was made at the end of the first quarter, following 3 months of intervention in the inclusion model; the second measurement was made at the end of the fourth quarter, or after a full year of intervention. Affective outcomes were assessed at the end of the year only.

The questions asked were as follows: What are the growth patterns of SLD and normally achieving groups on selected attributes after 3 months of intervention, and after a year (9 months) of treatment in an undifferentiated educational program? Are differences between groups diminishing over time? Program effectiveness would be suggested in diminishing differences between groups following intervention, in that initially existing gaps between students with SLD and NA students would reduce.

It must be noted that in employing a two-group, longitudinal design, comparisons were not being made here of equivalent groups from the same population, with one being subjected to treatment, as is true in typical applications of the experimental approach. Rather, the two groups in this study were from different populations to start with (SLD and NA). However, they were being provided a common educational setting. The goal of the study, therefore, was to observe and describe changes occurring in both groups over time, and to use NA students’ performance as a benchmark against which to describe the growth of students with SLD.

**Participants.** The fifth-grade inclusion class consisted of 13 (43.3%) students with SLD and 17 (56.7%) NA students, yielding a total of 30 students. The SLD group consisted of 12 (92%) boys and 1 (8%) girl, all of whom were White. Their performance on the district’s standardized achievement test, the Stanford Achievement Test (SAT; Psychological Corporation, 1989), showed bimodal distributions in both Total Reading and Total Math, with 4 (31%) students each at stanine levels of 2 and 4; the range of stanines in Total Reading was 1 through 8, whereas the range of stanines in Total Math was 2 to 5. Test score distributions on the WISC III showed one child with SLD (8%) to be in the very superior category, with a score of 130+; 4 (31%) in the high-average range, with scores of 111 to 119; 4 (31%) in the average range, with scores of 90 to 110; and 4 (31%) in the low-average category, with scores of 80 to 89. Eight of the students with SLD had received inclusion SLD services for a period of 2 years, one had been in some form of SLD program for 4 years, and 2 had received inclusion SLD services for the year of the study only.

The NA group was composed of 12 (71%) girls and five (29%) boys, all of whom were White. Their SAT stanine ranges and modes were as follows: Total Reading stanine range, 2 to 8, mode of 5 (41%); and Total Math stanine range, 2 to 9, also with mode of 5 (41%). For certain analyses, complete data on both measurements were available for only 11 of the 17 NA students, and these reduced numbers are indicated in the appropriate tables. Missing data were encountered due to nonattendance during data collection or students moving away.

**Learning outcomes and assessments.** Reading performance was assessed using the running record procedure, which yields a percentage of words read accurately on passages at particular levels of difficulty. Two pieces of information from the running record serve as indicators of reading fluency: (a) the difficulty level of the passage or story and (b) the percentage of words accurately read. To obtain assessments of reading fluency using the running record, teachers select a story at an appropriate level to be orally read by a child. A child’s reading performance is scored while the child is reading the passage, using a set of widely accepted rules (for scoring rules, see Abrams and Herrity, 1992;
Clay, 1975). Scoring rules enable the identification of such errors as omissions, insertions, substitutions, mispronunciations, and repeated inaccuracies during reading. Error rates are expressed as a percentage using the following formula: (No. of Errors + No. of words) x 100. The word accuracy rate is simply the error rate subtracted from 100%.

Both word-accuracy rates and the difficulty levels of the material read were kept as indicators of reading performance on each child at each data-collection point. Teachers employing the running record procedure had received formal training in scoring and assessment procedures from university-based consultants.

Writing performance was assessed based on writing samples created by students as a part of regular class assignments. These pieces were written in response to teacher-provided prompts such as "My pet . . ." and "Spending a weekend with my parent(s) away . . ." and involved application of a writing process that included drafting, editing, and revising of a piece to develop a finished product. Dated writing samples were maintained in portfolios for each child. Criteria for assessing quality of writing were length of passages written in terms of number of words and sentences, level of vocabulary, spelling accuracy, and complexity of sentence structure in writing samples. At the end of the school year all writing samples were scored by scorers trained in standardized scoring procedures (Abrams & Herrity, 1992). The scoring guide used provided word lists and specific guidelines for rating the writing samples with respect to particular attributes, such as use of "long words," "mature words," "simple sentences," "complex sentences," and so forth.

Attitude toward school, the affective outcome, was assessed using a 17-item attitude survey consisting of two subscales, Motivation (Items 1 through 9) and Self-Concept (Items 10 through 17). Students reported how they felt about school, their perceptions of their own success, and whether they felt different from other students, using a 3-point scale comprising Yes, No, and Sometimes. The total attitude measure was found to have an internal consistency reliability of .89, with the subscales showing Cronbach’s alpha values of .75 and .76, respectively.

Analyses. The data were primarily analyzed using descriptive statistics. In a few instances, inferential tests were applied. Reading data were analyzed as frequencies and percentages of students reading at different levels at the beginning and end of the year; cross-tabulations of the same data by SLD and NA groups were also analyzed using chi-square tests to determine whether differences in the number of students making reading gains were related to group membership.

Data on the various indicators of writing performance were compiled as means and standard deviations on each separate indicator (for example, on length of sample in number of words) at each data-collection point (first quarter, last quarter). Correlated means t tests were conducted to examine whether within-group means changed over time, and whether those differences were statistically significant at the .05 alpha level. All t tests were based on cases with complete data on the first and second measurements.

Frequencies and percentage of responses in each response category on items of the attitude survey were compared in SLD and NA groups; means and standard deviations of total and subscale scores were also examined and compared between groups using t tests at the .05 alpha level.

Part 2: Teacher and Parent Perception Surveys. Teacher and parent populations in Grades 2 to 4 were surveyed to ascertain their perceptions of program effectiveness. The surveys were designed to address two research questions: (a) How effective were services, based on parent perceptions of individual student growth and behaviors? and (b) How effective was the program, based on teacher perceptions of individual student growth and behaviors?

Participants and data sources. Ten teachers provided their perceptions of growth of all 45 students with SLD and 38 randomly picked NA students served within the Grade 2 to 4 inclusion houses. This number represented 58% of total students (139) served. Teachers sent parents of the same students with SLD and NA students the parent survey; responses were received from 29 (64%) SLD parents and 15 (39%) NA parents.

In composition, the Grade 2 to 4 inclusion houses consisted of 70 (50.3%) male and 69 (49.7%) female students; 135 (97%) were White and 4 (3%) Hispanic; 45 (32%) of the total group of 139 were classified as SLD, with the following score distribution on the WISC III: 2 (7%) students in the range of 70 to 79, 5 (17%) students in the range of 80 to 89, 16 (53%) students in the range of 90 to 110, and 7 (23%) students in the range of 111 to 119.

Procedure. Survey questionnaires were developed whose items focused on key areas of student growth and development with a 3-point scale representing (Yes,Sometimes, and No) response categories. Item-level data were analyzed from all surveys. Distributions of frequencies in response categories were compared using chi-square tests to examine whether differences in parent and teacher perceptions of effectiveness were associated with students’ SLD/NA status (p < .05).

Part 3. Anecdotal Information on "Great Moments." Anecdotal records were maintained by the SLD and mainstream teachers within the inclusion teams in Grades 2 to 5. These records were based on their ongoing observations of students with SLD and
NA students within the inclusion context; observations of SLD and mainstream teachers' behaviors within the same context; and comments of parents and observers external to the program, such as visitors from the nearby university (University of South Florida) on particular incidents.

At the start of the study, teachers were asked to keep notes (e.g., unsolicited notes from parents or visitors) or original records of any observations or happenings in the program that stood out, in their eyes, as a "great moment." Anecdotal records were studied to identify patterns of observations that were (a) consistent over time and (b) consistent across multiple observers—for instance, teachers, parents, and interns from the university. These records were then compiled by major themes.

Results

The findings of each of the three parts of the study are discussed below, in sequence.

**Part 1: Fifth-Grade Outcomes**

The range of difficulty in reading passages was somewhat different for students with SLD and NA students in the first quarter, with the former in the range of Levels 2 to 4, and most students reading at Level 2 (see Table 1). For NA students, the range of passage difficulty was from Levels 3 to 4, with all but two cases distributed in Level 4 with respect to passage difficulty. An upward movement in levels of books read was apparent in both groups by the fourth quarter.

Nine (90%) of the students with SLD and 11 (85%) NA students made a reading gain of a year; 1 (10%) student with SLD and 2 (15%) NA students made a reading gain of half a year or less at the end of 9 months in the inclusion setting. There was no statistically significant difference between groups on this analysis, \( \chi^2(1, N = 23) = 1.24, p = .27 \). A majority of students in the SLD and NA groups maintained 90% or better word accuracy on reading passages. Results in writing performance are presented in Table 2.

In the SLD group, there was a change from 74.25 words to 93.91 words in mean length of writing samples, but this apparent increase was not statistically significant. In the NA group, however, the increase was much more visible, with means changing from 90.62 words to 150.00 words, \( t(11) = 3.43, p < .05 \), from the first quarter to the last. A similar trend was observed using the total number of sentences as the indicator of writing growth.

The pattern of performance was somewhat different for vocabulary content in the writing samples. Students with SLD improved significantly with respect to the number of "long words" used in the writing sample, \( t(10) = 2.77, p < .02 \), with NA students showing even sharper increases, \( t(11) = 5.62, p < .02 \) (see Table 2). The use of "mature words" by NA students changed from an average of 35.5 to 50.8; in students with SLD, in contrast, the average number of mature words remained about the same—29.58 to 30.55, with the latter difference not being statistically significant.

There were small shifts in the number of simple sentences in the NA sample. Complex sentences, compound sentences, and complex-compound sentences were, on average, apparently used more by NA students; however, the changes over time were not significant for either group of students.

The number of correctly spelled words in writing samples was found to show a marked and statistically significant increase for NA students, \( t(11) = 3.17, p < .01 \), but not for the SLD group.

At the end of the school year, the NA group did not show significantly higher means (\( p = .05 \)) in overall attitude toward school, motivation, or self-concept, when compared to the SLD group (see Table 3).

Table 4 presents a comparison of response distributions of SLD and NA fifth graders on individual items of the attitude scale. Fewer students with SLD responded positively to three
statements: "I am well behaved in class," "I can do most of my schoolwork without help," and "I don’t feel different from other kids in my class," yielding statistically significant between-group differences at \( p < .03 \). On all remaining 14 items, no statistically significant differences were found in the distribution of responses for students with SLD and NA students.

**Part 2: Parent and Teacher Surveys**

Parent perceptions of the school-related behaviors of students with and without SLD were not very dissimilar in response pattern (see Table 5). When distributions of responses at the item level were examined for statistical significance at \( p < .05 \), differences in perceptions were found on only 2 of 16 items, and these favored the NA group. Both items focused on the child’s ability to handle schoolwork. On all other items, which focused on whether their child felt a sense of belonging in school, his or her interaction with others, or the child’s confidence and pride in his or her work, parent perceptions of SLD and NA groups were not significantly different.

Teacher perceptions of SLD and NA student behaviors showed no significant differences in response patterns on a few items: “The student attends school regularly,” “The student is not disruptive in class,” “The student seeks help when needed,” “The student wants to perform well in school,” “The student understands what I am teaching,” and “The student expresses that he or she feels good about his or her learning” (see Table 6). However, a clear difference in perceptions, favoring the NA group, was found on all other items, notably on “The student can do his or her work as well as
other students, “$\chi^2 (2, N = 80) = 13.84, p < .001.$

**Part 3: “Great Moments”**

Three recurrent themes could be gleaned from the anecdotal information that was gathered. These are presented below with supporting quotes.

**Theme 1:** SLD students served within an inclusion program do not feel or behave differently from other students served within the same context, and are often indistinguishable from students without disabilities.

This observation was made by a student teacher from the University of South Florida who was completing her practicum at the school where the program was being implemented. In January 1992, she wrote in her journal the following description of events in the “primary house” where both NA students and students with SLD were mixed: “All the students want to work with the SLD teacher. I think they think it’s special... I find there is no labeling, rather students do what they are capable of.” Later in the year, her records reiterated the earlier observations as follows: “When I first started my practicum, I did not know who the students with problems were. The students with problems seem [to have] models in their regular education peers.”

Such intermingling was also reported by the SLD teacher in the team in the following record of events during April, when the district’s annual standardized test is administered to students, and for which students with SLD and NA students are required to be separated. “The newest teacher in the pod,” wrote the SLD teacher in the team, “was confronted with the need to separate the SLD students... and announced to students... all of Mrs. P’s students, please line up.” [Mrs. P was the special education teacher in the team]. The entire group—38 students—lined up because “no one knew anymore who was or was not SLD.”

Parents made similar comments in letters of appreciation sent to the school. Students with SLD were not perceived as “different” within the inclusion model. One parent whose child had moved to middle school wrote,

mainstreaming J into the basic classroom was the best choice. Academically, J is doing real good, three As and two Bs in her progress report. J does not feel different from other students because she is not different... I feel the program [worked] to her advantage as well as [helped] all the other students—Basic and SLD.

**Theme 2:** Students with disabilities frequently showed spurts of academic and social-behavioral growth within the inclusion environment. Several observers commented on the improved self-esteem and motivation of the students with SLD.

The special education teachers in the teams recorded the following observations on various students with SLD in the inclusion setting. In the area of academics, some representative comments were as follows:

“P, a second grade nonreader back in Sept., when offered free play time in Feb., said to his friend (another SLD student)—“Come on, let’s not do this stuff, let’s read.” “This stuff” included playing with blocks, modeling clay, games, and so on.

Another note said, “Two SLD students, both second graders, have jumped from Emergent (PP) level books to reading Beginner (1–2) level material in a few short months!”

In another record:

Three SLD students, weak in written language, were having a contest to see how much they could write in a given Language Arts period... They worked on the project for one hour and 15 minutes nonstop and they helped each other edit!!

Other notes suggested significant changes in social behaviors. Two comments that typify such observations are the following:

A, a 3rd year SLD student, attended a play on Fantastic Friday. Afterwards he thanked his teacher saying it was the first time in 2 years that he didn’t spend a Friday fun time in the office [being punished for bad behavior]... This same child’s mother reported that he has completely stopped stuttering at home.

T had a history of having difficulty making and maintaining friendships. [His mother] was very pleased that he insisted on inviting classmates to his birthday party. Academically, T has begun to accept help from others and willingly assists other students in cooperative learning activities.

**Theme 3:** The environment develops into a sharing, caring community. Students appear to enjoy the opportunity to learn and work together.

<p>| TABLE 3 |
| Affective Outcomes for Fifth-Grade Students With and Without SLD |</p>
<table>
<thead>
<tr>
<th>SLD M SD</th>
<th>NA M SD</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude toward school: Total score</td>
<td>28.60</td>
<td>4.20</td>
</tr>
<tr>
<td>Motivation subscore</td>
<td>15.40</td>
<td>3.10</td>
</tr>
<tr>
<td>Self-concept subscore</td>
<td>12.64</td>
<td>5.63</td>
</tr>
</tbody>
</table>

Note. SLD = specific learning disabilities; NA = normally achieving. SLD group n = 11; NA group n = 16.
### TABLE 4
Distribution of Responses on Attitude Scale Items for Grade 5 Students With and Without SLD

<table>
<thead>
<tr>
<th>Survey items</th>
<th>SLD responses</th>
<th>NA responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Sometimes</td>
</tr>
<tr>
<td>I feel like I belong in my school.</td>
<td>8</td>
<td>72.7</td>
</tr>
<tr>
<td>I get along well with my classmates.</td>
<td>7</td>
<td>63.6</td>
</tr>
<tr>
<td>I come to school regularly.</td>
<td>11</td>
<td>100.0</td>
</tr>
<tr>
<td>I get along well with my teachers and school principal.</td>
<td>9</td>
<td>81.8</td>
</tr>
<tr>
<td>I am well-behaved in class.</td>
<td>7</td>
<td>63.6</td>
</tr>
<tr>
<td>I ask for help when I need it.</td>
<td>7</td>
<td>63.6</td>
</tr>
<tr>
<td>I try to do well in school.</td>
<td>10</td>
<td>90.0</td>
</tr>
<tr>
<td>I try to concentrate on learning most of the time.</td>
<td>9</td>
<td>90.0</td>
</tr>
<tr>
<td>9 I enjoy school.</td>
<td>6</td>
<td>54.5</td>
</tr>
<tr>
<td>10 I answer questions in class.</td>
<td>10</td>
<td>90.0</td>
</tr>
<tr>
<td>11 I understand the things that I'm learning.</td>
<td>6</td>
<td>54.5</td>
</tr>
<tr>
<td>12 I feel good about the things I'm learning at school.</td>
<td>10</td>
<td>90.0</td>
</tr>
<tr>
<td>13 I can do most of my schoolwork without help.</td>
<td>3</td>
<td>27.3</td>
</tr>
<tr>
<td>14 I think I can do whatever the teacher asks.</td>
<td>9</td>
<td>81.8</td>
</tr>
<tr>
<td>15 I can help other students in my class.</td>
<td>8</td>
<td>72.7</td>
</tr>
<tr>
<td>16 I don't feel different from other kids in my class.</td>
<td>8</td>
<td>72.7</td>
</tr>
<tr>
<td>17 I am proud of my work in school.</td>
<td>8</td>
<td>72.7</td>
</tr>
</tbody>
</table>

Note. SLD = specific learning disabilities; NA = normally achieving. SLD group n = 11; NA group n = 16.

### TABLE 5
Parent Perceptions of Growth for Students in Grades 2 to 4

<table>
<thead>
<tr>
<th>Survey items</th>
<th>SLD responses</th>
<th>NA responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Sometimes</td>
</tr>
<tr>
<td>My child feels like he/she belongs in the school.</td>
<td>27</td>
<td>93.1</td>
</tr>
<tr>
<td>My child interacts well with his or her schoolmates.</td>
<td>26</td>
<td>89.7</td>
</tr>
<tr>
<td>My child attends school regularly.</td>
<td>29</td>
<td>100.0</td>
</tr>
<tr>
<td>My child usually follows school rules.</td>
<td>26</td>
<td>89.7</td>
</tr>
<tr>
<td>My child talks enthusiastically about school.</td>
<td>22</td>
<td>75.9</td>
</tr>
<tr>
<td>As far as I know, my child asks for help when needed.</td>
<td>23</td>
<td>79.3</td>
</tr>
<tr>
<td>As far as I know, my child stays on task in school.</td>
<td>19</td>
<td>65.5</td>
</tr>
<tr>
<td>My child tries to perform well in school.</td>
<td>25</td>
<td>86.2</td>
</tr>
<tr>
<td>My child understands what he/she is learning in school.</td>
<td>22</td>
<td>75.9</td>
</tr>
<tr>
<td>My child feels good about the things he/she is learning in school.</td>
<td>25</td>
<td>86.2</td>
</tr>
<tr>
<td>My child does most of his/her schoolwork without help.</td>
<td>10</td>
<td>35.7</td>
</tr>
<tr>
<td>My child seems proud of his/her schoolwork.</td>
<td>22</td>
<td>75.9</td>
</tr>
<tr>
<td>My child is able to complete homework on his or her own.</td>
<td>11</td>
<td>39.3</td>
</tr>
<tr>
<td>My child seems confident.</td>
<td>15</td>
<td>51.7</td>
</tr>
<tr>
<td>My child talks about taking part in school projects.</td>
<td>23</td>
<td>79.3</td>
</tr>
<tr>
<td>Are you generally satisfied with SLD services?</td>
<td>27</td>
<td>93.1</td>
</tr>
</tbody>
</table>

Note. SLD = specific learning disabilities; NA = normally achieving. SLD group n = 29; NA group n = 15.

*Differences between groups are statistically significant at p < .10.
TABLE 6
Teacher Perceptions of Growth for Students in Grades 2 to 4

<table>
<thead>
<tr>
<th>Survey items</th>
<th>Yes</th>
<th>Sometimes</th>
<th>No</th>
<th>NA responses</th>
<th>Yes</th>
<th>Sometimes</th>
<th>No</th>
<th>( \chi^2 )</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student exhibits a sense of belonging to the school.</td>
<td>36</td>
<td>80.8</td>
<td>9</td>
<td>20.0</td>
<td>38</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student interacts easily with his/her peers.</td>
<td>30</td>
<td>66.7</td>
<td>13</td>
<td>28.9</td>
<td>2</td>
<td>4.4</td>
<td>3</td>
<td>7.9</td>
<td>2</td>
</tr>
<tr>
<td>The student attends school regularly.</td>
<td>43</td>
<td>95.6</td>
<td>1</td>
<td>2.2</td>
<td>1</td>
<td>2.2</td>
<td>34</td>
<td>89.5</td>
<td>1</td>
</tr>
<tr>
<td>The student possesses the social skills needed to relate to authority figures.</td>
<td>28</td>
<td>62.2</td>
<td>15</td>
<td>33.3</td>
<td>2</td>
<td>4.4</td>
<td>32</td>
<td>84.2</td>
<td>5</td>
</tr>
<tr>
<td>The student is not disruptive in class.</td>
<td>31</td>
<td>66.9</td>
<td>13</td>
<td>28.9</td>
<td>1</td>
<td>2.2</td>
<td>30</td>
<td>78.9</td>
<td>7</td>
</tr>
<tr>
<td>The student seeks help when needed.</td>
<td>35</td>
<td>77.8</td>
<td>10</td>
<td>22.2</td>
<td>3</td>
<td>6.7</td>
<td>33</td>
<td>86.8</td>
<td>5</td>
</tr>
<tr>
<td>The student stays on task most of the time.</td>
<td>29</td>
<td>64.4</td>
<td>13</td>
<td>28.9</td>
<td>3</td>
<td>6.7</td>
<td>32</td>
<td>84.2</td>
<td>4</td>
</tr>
<tr>
<td>The student wants to perform well in school.</td>
<td>41</td>
<td>91.1</td>
<td>2</td>
<td>4.4</td>
<td>2</td>
<td>4.4</td>
<td>37</td>
<td>97.4</td>
<td>1</td>
</tr>
<tr>
<td>The student talks enthusiastically about school.</td>
<td>28</td>
<td>62.2</td>
<td>11</td>
<td>24.4</td>
<td>6</td>
<td>13.3</td>
<td>31</td>
<td>81.6</td>
<td>7</td>
</tr>
<tr>
<td>The student does his/her work on his/her own initiative.</td>
<td>28</td>
<td>62.2</td>
<td>14</td>
<td>31.1</td>
<td>3</td>
<td>6.7</td>
<td>33</td>
<td>86.8</td>
<td>3</td>
</tr>
<tr>
<td>The student completes schoolwork on time.</td>
<td>30</td>
<td>66.7</td>
<td>10</td>
<td>22.2</td>
<td>5</td>
<td>11.1</td>
<td>33</td>
<td>86.8</td>
<td>3</td>
</tr>
<tr>
<td>The student understands the things that I'm teaching.</td>
<td>28</td>
<td>62.2</td>
<td>16</td>
<td>35.6</td>
<td>1</td>
<td>2.2</td>
<td>29</td>
<td>76.3</td>
<td>8</td>
</tr>
<tr>
<td>The student expresses that she/he feels good about the things we are learning at school.</td>
<td>28</td>
<td>62.2</td>
<td>13</td>
<td>28.9</td>
<td>4</td>
<td>8.9</td>
<td>28</td>
<td>73.7</td>
<td>10</td>
</tr>
<tr>
<td>The student can do most of his/her schoolwork without help.</td>
<td>24</td>
<td>53.3</td>
<td>11</td>
<td>24.4</td>
<td>10</td>
<td>22.2</td>
<td>30</td>
<td>78.9</td>
<td>6</td>
</tr>
<tr>
<td>The student shows pride in his/her work.</td>
<td>37</td>
<td>82.2</td>
<td>8</td>
<td>17.8</td>
<td>38</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When the student answers questions, he/she is usually right.</td>
<td>34</td>
<td>75.6</td>
<td>11</td>
<td>24.4</td>
<td>35</td>
<td>92.1</td>
<td>2</td>
<td>5.3</td>
<td>1</td>
</tr>
<tr>
<td>The student can do his/her work as well as most other students.</td>
<td>22</td>
<td>48.9</td>
<td>13</td>
<td>28.9</td>
<td>10</td>
<td>22.2</td>
<td>33</td>
<td>86.8</td>
<td>4</td>
</tr>
<tr>
<td>The student seems happy.</td>
<td>33</td>
<td>73.3</td>
<td>11</td>
<td>24.4</td>
<td>1</td>
<td>2.2</td>
<td>36</td>
<td>94.7</td>
<td>2</td>
</tr>
<tr>
<td>The student frequently assumes leadership roles in class.</td>
<td>15</td>
<td>33.3</td>
<td>16</td>
<td>35.6</td>
<td>14</td>
<td>31.1</td>
<td>24</td>
<td>63.2</td>
<td>10</td>
</tr>
<tr>
<td>The student exhibits positive self-esteem/self-concept.</td>
<td>28</td>
<td>62.2</td>
<td>12</td>
<td>26.7</td>
<td>5</td>
<td>11.1</td>
<td>32</td>
<td>84.2</td>
<td>5</td>
</tr>
</tbody>
</table>

Note. SLD = specific learning disabilities; NA = normally achieving. SLD group \( n = 45 \). NA group \( n = 35 \).

* Differences between groups are statistically significant at \( p \leq 0.10 \).

In March, one teacher described a scenario in the pod: Students were engaged in free play activities. All the teachers were in the center of the class laughing about how we weren’t even needed for instruction any more. One class had a gifted 2nd grader at the blackboard with a variety of SLD and younger NA students mapping out the word INSECT, generating words that fit under the topic. Another class had a bright first grader teaching an SLD 2nd grader how to read The Little Red Hen. The classroom had a group of mixed age students with SLD students involved in designing a play to present to the pod.

An intern remarked, “The students really enjoy working together. It’s great to see students, who may not interact otherwise, working together. I think students who are helping the others feel better about themselves.”

**Theme 4. Teachers within the team enjoy and benefit from collegial exchanges of strategies, and develop better understandings of student needs.**

With regard to teachers working together in the “house,” one teacher summed up the major benefits as two-fold: (a) Teachers are able to share strategies, and (b) the results of the educational program are enhanced by the team effort. She also believed that children with disabilities are identified earlier in an educational setting with several teachers corroborating each other’s observations. Parents not only recognized but also commended specific aspects of the program through written communications to various teachers. One parent stated: “This learning environment is very supportive in a genuine way. . . . I very much like what is happening in your school.” Another par-
ent reported that her child with SLD had been able to make a smooth transition to middle school and was successful there. She attributed much of his success to his experiences in the inclusion SLD program.

Letters were also received from parents who offered to be volunteers in the program.

**Conclusions**

As educators set agendas for school reorganization and reform, policies regarding services for special education students should take into account the accumulated findings of studies that examine effects of various approaches to inclusion. To help all students become successful in a least restrictive environment requires more than physical reorganization and staff reallocation; it requires the use of practices that are the most directly linked, through empirical research, to positive student outcomes (Salisbury, 1991). In this evaluation, we attempted to document outcomes observed in a particular inclusion setting.

The data gathered in different parts of the study were in agreement with regard to certain findings, indicating some clearly beneficial effects of the inclusion SLD model that was implemented here. The results on fifth-grade outcomes are corroborated by teacher and parent perception surveys of program efficacy in the Grade 2 to 4 pods, all of which were further supported by the anecdotal data kept by teachers.

In academic areas, such as reading, the SLD group in the fifth-grade inclusion classroom was found to develop at a pace comparable to that of their NA peers. Furthermore, students with disabilities were not found to be markedly different from the NA group in affective areas at the end of the school year. Their growth pattern was not as consistent on writing indicators, nor were their gains as obvious as those of students without disabilities.

The findings on the fifth-grade affective student outcomes were well supported by the results of the parent and teacher surveys, which suggested improved self-esteem for students with SLD, and, in some cases, improved motivation as well. Teachers were more discerning than parents regarding differences in academic and social behaviors among students with and without disabilities, and indicated less positive perceptions of students with SLD on behavior (e.g., ability to handle schoolwork). The anecdotal data appeared to highlight important benefits for all students, particularly with regard to the lack of stigma for the students with disabilities in the inclusion classrooms. There were also some indications of positive and productive collaborations among staff in the inclusion setting.

The findings that a few fifth graders with disabilities acknowledged that they believed they were different from other students in the class, and that a majority acknowledged that they were only sometimes able to do their schoolwork without help, are consistent with other studies that have shown such students to have low self-perceptions of their scholastic achievement (e.g., Clever et al., 1992). Previous reports of positive outcomes for similar programs based on qualitative and quantitative data (Truesdell, 1985; Truesdell & Abramson, 1992) appear to be consistent with the findings of the present study.

Interpretations based on the study of fifth-grade outcomes are limited due to the absence of true baseline data on the variables of interest. The study would also have been stronger had a comparison group been available of students with SLD served in a pull-out resource program (the traditional alternative in the district). In the school that served as the site for this study, a traditional program was not in place.

It must be reiterated that the findings reported reflect possible outcomes of inclusion programs that incorporate effective teacher-teaming strategies combined with multi-age and multigrade groupings of students. Innovative instructional strategies, such as the integrated language arts approach, may also have contributed to positive program effects. Support from other professionals, such as school psychologists, administrators, and school district officials, enhanced the success of the program described. Although these latter factors have not been formally documented, they should be taken into account when implementing educational programs with similar objectives.

**ABOUT THE AUTHORS**

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