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Guidelines for Selecting Alternatives to Overreliance on Paraprofessionals: Field-Testing in Inclusion-Oriented Schools

Michael F. Giangreco[1], Stephen M. Broer[2], and Jesse C. Suter[1]

Abstract

This 5-year multisite mixed-methods evaluation study chronicles the field-testing of the planning process Guidelines for Selecting Alternatives to Overreliance on Paraprofessionals in 26 schools (Grades K–12) in six states. Evaluation of the utilization and outcomes of the guidelines process was based on data from 472 study participants. Findings highlight (a) reasons why schools decided to utilize the process; (b) self-assessment ratings, selected priorities, and actions pursued by the schools; (c) consumer feedback; and (d) the impact of the guidelines process in the schools. Primary areas of impact included changes in special educator caseloads and paraprofessional utilization, extension of inclusive opportunities, and improvement in classroom collaboration and practices. Implications for schools and future research are discussed.

Keywords

inclusive education, paraprofessionals, service delivery, systems change

Utilization of paraprofessionals is a well-established and growing trend in U.S. schools. As of 2006 the steadily increasing number of paraprofessionals serving in our nation's special education system (ages 6–21) had risen to nearly 357,000 (U.S. Department of Education, 2006c). Twenty-three states now report employing more special education paraprofessional full-time equivalents (FTEs) than special educator FTEs (U.S. Department of Education, 2006b, 2006c). Notwithstanding national variability, the states with the highest proportion of special education paraprofessionals to special educators (e.g., Connecticut, North Dakota, New Hampshire, Oregon, South Dakota, Vermont) have among the highest rates of general class placement for students with disabilities (U.S. Department of Education, 2006a, 2006b, 2006c). These data support the contention that the utilization of paraprofessionals has emerged as a mechanism that schools increasingly rely on to support students with disabilities in general education classrooms.

Researchers widely acknowledge the benefits of employing trained paraprofessionals to assist in the delivery of special education under the direction of qualified professionals (Doyle, 2008; Pickett, Gerlach, Morgan, Likins, & Wallace, 2007). Studies have documented effective use of paraprofessionals to develop various academic skills (Lane, Fletcher, Carter, Dejud, & Delorenzo, 2007; McDonnell, Johnson, Polychronis, & Risen, 2002; Vadasy, Sanders, & Tudor, 2007) and facilitate peer interactions (Causton-Theoharis & Malmgren, 2005; Devlin, 2005; Malmgren, Causton-Theoharis, & Trezek, 2005). To increase the probability of a positive impact on student outcomes, researchers suggest that when paraprofessionals deliver instruction, it should be supplemental rather than primary or exclusive, planned by a qualified professional (e.g., teacher, special educator) so that it does not require paraprofessionals to make pedagogical decisions, based on explicit and intensive training in research-based practices, and followed by ongoing supervision to ensure implementation fidelity (Causton-Theoharis, Giangreco, Doyle, & Vadasy, 2007). Yet two reviews of the literature suggest that these logical features are not in place for many special education paraprofessionals (Giangreco, Edelman, Broer, & Doyle, 2001; Giangreco, Suter, & Doyle, in press).

Research indicates that too many paraprofessionals are left on their own to make pedagogical decisions while remaining inadequately trained and supervised (Downing, Ryndak, & Clark, 2000; French, 2001; Giangreco, Broer, & Edelman, 2002; Giangreco, Edelman, et al., 2001; Marks, Schrader, & Levine, 1999; Riggs & Mueller, 2001). In part

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Step 1: *Establish a Planning Team*. Recommended membership includes: (a) general education administrator, (b) special education administrator, (c) general education teacher, (d) special education teacher, (e) special education paraprofessional, (f) parent of a child with a disability, (g) person with a disability, and (h) a critical friend to provide a respected outsider's view.

Step 2: *Conduct Screening*. The team rates a set of 16 statements reflecting problematic paraprofessional practices to determine if their school is sufficiently overreliant or inappropriately reliant on paraprofessionals to warrant further self-assessment and action planning.

Step 3: *Rank Four Problem Clusters*. A visual graphic clusters screening responses in four categories: (a) excessive proximity and isolation within the classroom, (b) questionable resource allocation or instructional role mismatch, (c) insufficient special educator and/or teacher ownership and engagement, and (d) dependence on paraprofessionals or inappropriate autonomy.

Step 4: *Become Knowledgeable About Existing Alternatives to Overreliance or Inappropriate Utilization of Paraprofessionals.* Team members read online descriptions about 15 alternatives to overreliance on paraprofessionals (e.g., resource reallocation).

Step 5: *Engage in a Self-Assessment of the School's Current Practices.* The team rates a set of 20 statements reflecting positive general education and special education practices in six categories: (a) school and classroom environment and practices, (b) teacher practices, (c) special educator practices, (d) teacher and special educator collaboration, (e) family information and participation, and (f) student participation and reciprocal support.

Step 6: *Prioritize the Areas of Greatest Need.* The team identifies the five highest priorities based on their self-assessment ratings and select which to address first.

Step 7: *Consider Possibilities to Adopt, Adapt, or Invent Alternatives.* The team considers which combination of alternatives might appropriately match their selected priorities. They consider whether known alternatives can be adopted or adapted to their setting and suggestions for inventing new ideas are outlined.

Step 8: *Develop and Implement an Action Plan and Evaluation Plan.* Instructions and a format for developing action and evaluation plans are provided. A chain of reasoning connects actions with outputs and impact on student outcomes.

Step 9: *Review Implementation/Evaluation Data and Summarize the Plan's Impact.* Seven category headings are offered for summarizing the actions, chain of reasoning, and impact of implementation as a written report of impact.

Step 10: *Communicate Activities, Progress, and Outcomes to the School Community.* Suggestions are offered for sharing the team's work with various audiences in the school community (e.g., school board, parents, faculty).

Figure 1. Guidelines for Selecting Alternatives to Overreliance on Paraprofessionals: Ten Steps

this problem may stem from underlying inadequacies in special education service delivery. For example, in two studies, a combined total of 162 special educators in inclusive schools reported that, on average, a mere 2% of their time was available for each paraprofessional they supervised (Giangreco & Broer, 2005; Suter & Giangreco,2009). Insufficient time to adequately supervise paraprofessionals is associated with extensive and varied demands on special educators' time, high caseloads, and proportionally higher numbers of paraprofessionals than special educators.

The literature is replete with evidence that the use of one-to-one paraprofessionals is associated with a host of inadvertent detrimental effects (e.g., interference with teacher engagement and peer interactions, unnecessary dependence, stigmatization, provocation of behaviors; Giangreco, Broer, & Edelman, 2001; Giangreco, Edelman, Luiselli, & MacFarland, 1997; Hemmingsson, Borell, & Gustavsson, 2003; Malmgren & Causton-Theoharis, 2006; Marks et al., 1999). Furthermore, when students with disabilities are placed in general education classes, there is a risk that they may not truly be included or appropriately supported by highly qualified teachers and special educators. In too many instances paraprofessionals may inappropriately function in the role of teacher or special educator (Downing et al., 2000; Giangreco et al., 1997; Marks et al., 1999).

Although some research follows the desirable path of strengthening paraprofessional services through better role clarification, training, and supervision (Carter, O'Rourke, Sisco, & Pelsue, 2009; Causton-Theoharis & Malmgren, 2005; Devlin, 2005; French, 2001; Giangreco, Edelman, & Broer, 2003; Wallace, Shin, Bartholomay, & Stahl, 2001), recent literature has begun to explore alternatives to overreliance on paraprofessionals (Carter, Cushing, Clark, & Kennedy, 2005; Giangreco & Broer, 2005, 2007; Giangreco, Halvorsen, Doyle, & Broer, 2004; Giangreco, Smith, & Pinckney, 2006). The current investigation extends the fledgling study of alternatives to overreliance on paraprofessionals by describing the process and impact of the planning tool Guidelines for Selecting Alternatives to Overreliance on Paraprofessionals (GSA; Giangreco & Broer, 2003). The GSA is a 10-step team process (37-page online manual) to examine a school's practices for students with disabilities in general education classrooms and to consider alternatives (see Figure 1). Conceptually, the GSA is based on the premise that the more the self-assessment items (Step 5) are practiced in a

school, the less likely the school will be overreliant on paraprofessionals or utilize them inappropriately.

The current study posed a series of five questions:

1. Why did schools decide to utilize the GSA planning process?
2. How did schools rate themselves on 20 GSA self-assessment items?
3. What were the schools' highest priorities and what actions were taken?
4. How did study participants rate the GSA planning process?
5. What impact did the GSA planning process have in the participating schools on service delivery, faculty, and students?

This study fills a gap because the literature does not currently describe any comparable planning processes or data. By thoughtfully involving various stakeholders in this planning process, schools can minimize the inadvertent negative consequences associated with the inappropriate utilization of paraprofessionals and develop appropriate alternatives.

Method

Design

This investigation was a 5-year multisite mixed-methods evaluation study. Twenty-six schools participated in three staggered cohorts: from 2002 to 2005 ($n = 6$), from 2003 to 2006 ($n = 12$), and from 2004 to 2007 ($n = 8$). Data were collected at each school over a 2–year period, with a maintenance follow-up occurring in the third year.

Recruitment

Recruitment materials (e.g., invitation, application) were e-mailed to approximately 300 special education professionals nationwide who were affiliated with college or university special education training programs, projects funded by the Office of Special Education Programs, parent organizations, and schools. Schools were offered minigrants ranging from $3,500 to $4,500 in exchange for field-testing the GSA as part of a federally funded model demonstration called Project EVOLVE (Expanding and Validating Options for Learning Through Variations in Education). Project advisory council members reviewed the submissions, recommending that all 26 applicants be accepted as field-test sites.

Settings

Field-testing was conducted in 26 schools in six states: California ($n = 2$), Connecticut ($n = 3$), Kansas ($n = 4$), New Hampshire ($n = 2$), Wisconsin ($n = 3$), and Vermont ($n = 12$). Ten schools identified themselves as rural, 8 as suburban, and 8 as urban. Fourteen schools were elementary or a combination of elementary and middle grades (K–8). The other 12 sites included 8 middle schools, 2 high schools, and 2 central schools (K–12).

The following information reflects baseline data during each school's initial year in the study. Total school enrollment ranged from 81 to 2,100 students ($M = 562.0$, $SD = 417.0$) with average class sizes of 21 ($SD = 3.3$). An average of nearly 19% ($SD = 26.4\%$) of students were from racial/cultural minorities. An average of 33% ($SD = 22.3\%$) of students in these schools were eligible for free or reduced-price school lunch.

The mean percentage of students on Individual Education Programs (IEPs) was 14% ($SD = 4.3$). Schools placed between 60% and 100% of their students with disabilities in general education as their primary placement (80% of the time or more; $M = 94.5$, $SD = 10.23$) and employed one special educator (FTE) for an average of 111 students ($SD = 44.02$). The average special educator caseload of students on IEPs was nearly 15 ($SD = 4.0$), ranging as high as 22; some special educators had additional responsibilities for students with disabilities on 504 plans or those considered at risk. On average, there was 1 special education paraprofessional for every 6 students on an IEP ($SD = 3.8$). Nearly 43% ($SD = 24.6$) of all the special education paraprofessional FTEs were assigned one-to-one to students with disabilities.

Study Participants

Study participants included 472 people who were members of their schools' GSA planning teams or other school personnel, including 137 teachers, 114 paraprofessionals, 76 special educators, 35 general education administrators, 30 special education administrators, 22 parents, 20 critical friends, 16 persons with disabilities, and 22 others (e.g., related service providers). In this context, critical friends are individuals (not employed by the school) who have or acquire knowledge about the school so that they may provide a respected outsider's perspective on issues that the team is exploring (Jorgensen, 1998; Olson 1994, 1998). They do this by challenging conventional wisdom within the system, asking constructive questions, and offering reflective feedback. Among participating schools, critical friends included a variety of individuals, such as community members with varied backgrounds (e.g., business, education), faculty members from local universities, and school personnel from neighboring districts. Seventy-seven study participants provided two or more types of data (e.g., questionnaires, interview, observation). The remaining 395 study participants provided a single type of data during the study period.

Procedures

Each school was provided with copies of the GSA manual. School personnel received no training or technical assistance before or during their use of the GSA process. This was done purposely to help determine the usability of the tool in real-world situations, at a distance from the developers. Teams used the process to assess their schools' needs, identify priorities, develop a plan, then implement and evaluate it.

Data Collection

Seven types of data were collected in each school. First, school demographic (e.g., enrollment) and special education service delivery data (e.g., personnel FTE) were collected at the beginning of three consecutive academic years. Second, as teams completed the GSA process (Steps 1–9), they sent us data about team membership, screening, self-assessment ratings, priority selections, and action plans. Third, after completion of Step 8 (action planning), 213 team members completed a consumer satisfaction questionnaire about the GSA process (e.g., whether it did what it purported to do, importance, ease of use).

Fourth, the first author conducted 75 individual semi-structured interviews with general education administrators ($n = 26$), special education administrators ($n = 19$), special educators ($n = 14$), teachers ($n = 8$), critical friends ($n = 4$), paraprofessionals ($n = 3$), and a speech/language pathologist ($n = 1$). Interviews lasted an average of one hour, occurred in each school, and relied on an interview guide with categories related to contextual information, service delivery, situations perceived as being effective or of concern, impact of practices on students with disabilities and service providers, and feedback on the GSA process. When interviews were conducted after action plan implementation had begun (after Step 8), additional categories included: action plan implementation successes and challenges, action plan impact on students with disabilities and service providers, and unanticipated or collateral effects. Interviews were tape-recorded and transcribed verbatim. Fifth, one of four qualified observers conducted observations in each school at least once. They made 29 site visits and recorded written field notes based on 88 hours of observation.

Sixth, at the end of their second year, teams submitted a report of impact (Step 9) describing links between actions taken as a result of their GSA planning and outcomes. Seventh, 1 year after each site submitted its report of impact and had gone a year without contact with us, school administrators (14 principals, 12 special education administrators) completed a phone questionnaire exploring the status of their planning teams and rating the impact of their participation in Project EVOLVE as a contributing factor on student outcomes and overall school improvement.

Data Analysis

Quantitative data were analyzed using SAS 9.1. Qualitative text data (i.e., interview transcripts, observation field notes, reports) were analyzed inductively using categorical coding (Bogdan & Biklen, 2003). Text data were imported into SuperHyperQual (Padilla, 2004), a computer application designed to sort qualitative text data. The text data were read and tagged with more than 100 codes using words descriptive of text content. SuperHyperQual was used to sort the data into code-specific reports. Inductive analysis was applied to the code-specific reports to assist in the identification of themes. Because of the volume of data, findings regarding the GSA screening components (Steps 2 and 3) are described in a separate study (Giangreco & Broer, 2007).

Findings

When considering the findings of the present investigation, as organized by the study's five evaluation questions, one needs to be aware of the study's limitations. The absence of a control group does not allow for ascertaining the effectiveness of the GSA process as an independent variable from an experimental perspective. Therefore, reported outcomes should be considered as being potentially contributory rather than causal. When the developers of an innovation evaluate it (rather than an independent third party), readers should be cognizant of potential bias. Furthermore, all schools participated voluntarily in response to recruitment that included a minigrant award. One should therefore consider the possible influence of self-selection and inducement. Although all the schools followed the same basic process, there is no assumption of strict fidelity in terms of how they utilized the GSA process; presumably, there were variations in how the teams interpreted and used the tool. Despite its limitations, this study provides field-based data suggesting that (a) schools with widely varying characteristics successfully utilized the GSA process to assist in developing alternatives to the over-reliance or inappropriate utilization of paraprofessionals, (b) individuals using the GSA process rated it favorably, and (c) implementation of GSA action plans contributed to a variety of positive outcomes.

Why Schools Decided to Utilize the GSA Planning Process

School administrators (e.g., principals, special education administrators) reported a variety of reasons for participating in GSA field-testing, typically stemming from a recent history of either burgeoning utilization of paraprofessionals or concerns about the effective use of personnel. Study participants in several schools described a culture of hiring paraprofessionals as a "quick fix" leading to concerns about

their serving as the "primary mechanism to support students with disabilities in the general education environment." One participant stated, "Our service delivery model for kids with significant disabilities has pretty much been: hire a paraprofessional" in response to teacher, special educator, or parent advocacy. Once a paraprofessional was assigned, there was often "pressure to continue paraeducator services" even when students "no longer needed them." "As teachers and parents became accustomed to paraprofessional support, the practice became engrained." Observations confirmed that some students who were assigned one-to-one paraprofessionals effectively participated in parts of the school day without paraprofessional support; sometimes the paraprofessional worked with other students during parts of the day. As one principal offered, "there must be a better way; this is not the way to solve the problems, to just keep on hiring one-on-one people."

Several principals and special education administrators reported "pressure from above" (e.g., superintendents, school boards) to scrutinize their use of paraprofessionals: "The superintendent has been very clear about not throwing personnel at every single situation that comes up . . . because the budget was going through the roof." Interviews with teachers and special educators, along with classroom observations, confirmed that "at times more than one adult would be in a classroom not engaged in the instruction, but just sitting with a student." Although administrators acknowledged the financial issues, several considered GSA field-testing an opportunity "to change the paradigm." "How do we make better use of our resources? How do we make sure that kids are included more appropriately and not just little islands in the classroom?"

Study participants (e.g., parents, teachers, special educators, administrators) frequently commented that "the biggest concern is that we have the least trained people working with the most complicated kids." In some schools, "paraprofessionals operate with virtually unrestricted autonomy; we have some paraprofessionals that have been there so long that the teachers pretty much let them do their own thing." Observations confirmed interview data indicating that a subset of students, those with more intensive support needs, received "most of their instruction from paraprofessionals." Some paraprofessionals were inappropriately "expected to modify and accommodate on the fly." "I don't know why we'd expect them to be able to do that, when we [education professionals] can't always figure out how to do that." These practices were perceived as contributing to "lowered expectations," "devalued status," stigmatization (e.g. "especially the middle school [and older] aged children, some of them are even embarrassed; they don't want to be seen as doing anything differently or being different"), "teaching the kids to be dependent," "inadequate instruction," and being "segregated within the classroom—we still have classes with the special ed kid sitting with the paraed at the back table doing something separate."

All categories of study participants (especially, school personnel) reported persistent concerns about the "ineffective use of our special educators" who were reportedly "far removed from the [regular] classroom due to the mounds of paperwork [and] the increase in referrals for evaluations" (special educator) and who were spending inordinate amounts of "their time scheduling the aides instead of teaching" (special educator). When they were in general education classrooms, special educators reported feeling less than utilized: "There have been moments where I feel like a glorified paraeducator."

Some teachers, special educators, and administrators voiced concerns that "there is insufficient involvement of general educators in the instruction of students with disabilities." Some study participants were concerned that having "too many adults" in classrooms "places a burden on the classroom teacher" and "becomes a management issue" in terms of the time, communication, coordination, and resources necessary to "recruit, train, and provide adequate supervision" to paraprofessionals. Some schools decided to field-test GSA to encourage "this idea of special education students being the responsibility of all people in this school."

Despite sufficient support within schools to move forward with the GSA process, some school community members (especially, paraprofessionals) expressed "apprehension about being involved in this type of process." An administrator explained, "Rumors spread that this process was going to cut paraprofessionals in the school. While we acknowledged this may be an outcome, we tried to present it as a project designed to better meet needs of students in our school."

Schools' Self-Assessment Ratings

Table 1 indicates that the majority of teams rated themselves as needing some work or major work on most self-assessment items. Fifty to ninety percent of the schools rated 15 of the 20 indicators as *needs some work* or *needs major work*. The 5 self-assessment items with the highest combined *needs some work* or *needs major work* percentages were as follows: teachers have the knowledge and skills to differentiate instruction for mixed-ability groups (92%), families are well informed about how the school defines appropriate and inappropriate roles of paraprofessionals (92%), special educators have working conditions that facilitate individualized special education for students (88%), families are well informed about the potential benefits and drawbacks of paraprofessional supports (88%), and teachers have working conditions that facilitate instructing students with a full range of disabilities in their classrooms (85%). As one team's critical friend noted, this step was a "powerful

Table 1. Schools' Priority Rankings and Self-Assessment Ratings Based on the GSA

Rank[a]	Abbreviated Self-Assessment Statements[b]	Needs Major Work % (*n*)	Needs Some Work % (*n*)	OK for Now % (*n*)	Doing Well % (*n*)
1 (20)	Special education teachers have working conditions (e.g., manageable caseload size, caseload composition, materials, manageable number of paraprofessionals to supervise) that facilitate individualized special education for students on their caseload. (9)	30.77 (8)	56.69 (15)	11.54 (3)	0.00 (0)
2 (19)	Teachers have the knowledge and skills to differentiate instruction for mixed-ability groups that include students, with and without disabilities, within the context of typical class activities. (7)	30.77 (8)	61.54 (16)	7.69 (2)	0.00 (0)
3 (14)	Teachers and special educators schedule time to work with SWD and collaborate with each other by assigning paraprofessionals to noninstructional tasks (e.g., clerical, attendance, lunch, playground supervision) and professionally planned and supported instruction. (12)	38.46 (10)	38.46 (10)	15.38 (4)	7.69 (2)
4 (12)	Families are well informed about how the school defines appropriate and potentially inappropriate roles of paraprofessionals. (15)	26.92 (7)	65.38 (17)	7.69 (2)	0.00 (0)
5 (11)	Teachers have working conditions (e.g., class size, class composition, materials, supports) that facilitate including and instructing students with a full range of disabilities in their classrooms. (8)	19.23 (5)	65.38 (17)	11.54 (3)	3.85 (1)
5 (11)	Teachers and special educators are familiar enough with all the students in the classroom, the curriculum, and instructional approaches, so that the temporary exchange of primary roles can occur without major disruption to students with and without disabilities. (13)	38.46 (10)	34.62 (9)	15.38 (4)	11.54 (3)
7 (8)	The school has well functioning schoolwide support system to provide needed assistance to students with and without disabilities. (3)	11.54 (3)	53.85 (14)	19.23 (5)	15.38 (4)
8 (7)	Teachers think it is their role to provide instruction for students with the full range of disabilities who are placed in their classrooms, rather than primarily serving as hosts. (6)	15.38 (4)	65.38 (17)	11.54 (3)	7.69 (2)
9 (4)	Teachers in our school have positive attitudes about including students with a full range of disabilities as members of their classroom community. (5)	3.85 (1)	61.54 (16)	19.23 (5)	15.38 (4)
9 (4)	Special educators have the knowledge and skills to successfully differentiate instruction within the context of class activities for mixed-ability groups that include students with and without disabilities. (11)	3.85 (1)	46.15 (12)	30.77 (8)	19.23 (5)
9 (4)	Families are well informed about the potential benefits and drawbacks of providing paraprofessional supports. (16)	19.23 (5)	69.23 (18)	11.54 (3)	0.00 (0)
12 (3)	Students are placed in chronologically age-appropriate general education classes and the number of students with disabilities in those classes is naturally proportional (e.g., no more than 10%–15% have disabilities). (2)	3.85 (3)	30.77 (8)	26.92 (7)	30.77 (8)
12 (3)	Classmates with and without disabilities have opportunities to provide natural supports to each other or cross-age peers. (20)	0.00 (0)	46.15 (12)	38.46 (10)	15.38 (4)
14 (2)	Students with disabilities are physically situated within classrooms to facilitate their participation with classmates and instruction by the classroom teacher (e.g., not isolated in the back or side of the room). (4)	3.85 (1)	50.00 (13)	11.54 (3)	34.62 (9)
14 (2)	Special educators have the knowledge of the general education curriculum and standards and the skills to successfully individualize curriculum for students with disabilities. (10)	3.85 (1)	46.15 (12)	23.08 (6)	26.92 (7)

(continued)

Table 1. (continued)

Rank[a]	Abbreviated Self-Assessment Statements[b]	Needs Major Work % (*n*)	Needs Some Work % (*n*)	OK for Now % (*n*)	Doing Well % (*n*)
14 (2)	Teachers and special educators are familiar enough with the various educational and support needs of the students with disabilities in the classroom that the temporary absence of the paraprofessional can occur without major disruption to students with or without disabilities. (14)	15.38 (4)	26.92 (7)	46.15 (12)	11.54 (3)
14 (2)	Parents and students with disabilities (when appropriate) participate as team members in developing and implementing the IEP. (18)	0.00 (0)	23.08 (6)	15.38 (4)	61.54 (16)
18 (1)	Families are well informed about information the school considers to determine whether paraprofessional supports should be included in their child's IEP. (17)	15.38 (4)	53.85 (14)	30.77 (8)	0.00 (0)
18 (1)	Students with and without disabilities (when age-appropriate) are actively involved in making decisions about their own supports in schools. (19)	7.69 (2)	42.31 (11)	46.15 (12)	3.85 (1)
20 (0)	Students with disabilities are educated in schools they would attend if they were not disabled. (1)	0.00 (0)	3.85 (1)	3.85 (1)	92.31 (24)

Note: *n* = 26 schools. GSA = Guidelines for Selecting Alternatives to Overreliance on Paraprofessionals; SWD = students with disabilities; IEP = Individualized Education Program.
[a]Number in parentheses indicates the number of teams that selected this item as a top-five priority.
[b]Number in parentheses indicates reference number from GSA planning tool.

piece that forces people to sort of wake up and smell the coffee. . . . They're just so deep into their own practice that nobody has helped them step back and look at that connections." Conversely, 54% to 96% of the schools rated only 5 indicators as *OK for now* or *doing well*.

Schools' Self-Identified Priorities and Actions Taken

As listed in Table 1, 19 of the 20 self-assessment items were identified by at least one team as being among its top five priorities. The five highest-ranked priorities determined by the schools were all among the top seven self-assessment items most frequently identified as being in need of some or major work, though not in the same order. Twenty of the 26 teams identified special educator working conditions among their top five priorities, making it the most highly ranked priority among the self-assessment items. Also among the top five priorities were teacher differentiation for mixed-ability groups (ranked second), teachers and special educators scheduling time to work with students with disabilities and collaborate with each other (ranked third), families being well informed about paraprofessional roles (ranked fourth), and teacher working conditions (ranked fifth), identified by 19, 14, 12, and 11 teams, respectively. Each school's team selected an individually determined set of actions documented in its action plan (Step 8). The majority of these actions came from a set of a dozen existing alternatives to the overreliance or inappropriate utilization of paraprofessionals listed in the GSA (Step 4). Although the range and combination of actions were wide, six emerged as the most commonly selected actions. Actions designed to build capacity and ownership of teachers and special educators to support students with disabilities (e.g., professional development on differentiated instruction, schedule changes to establish "common prep periods") was the most frequently taken action by 92% (n = 24) of the teams. Half the teams (n = 13) also took actions to improve working conditions for special educators (e.g., lowering and changing caseloads) and to engage in systematic information sharing with parents, teachers, and others on related topics (e.g., research on paraprofessional issues, Individuals with Disabilities Education Act, inclusive education). Thirty-five percent of the teams (n = 9) pursued resource reallocation, whereby they traded 2.5 to 4.0 paraprofessional positions to hire an additional special educator—the numbers depended on local wage and benefit costs. Eight teams (31%) initiated coteaching, and seven (27%) took action to reassign the roles to increase professional educator time with students with disabilities (e.g., shifting away from use of one-to-one paraprofessionals; shifting some paperwork tasks from special educators to paraprofessionals). On average, teams pursued three to four alternative action categories (e.g., capacity building, resource reallocation, information sharing); a few took as many as seven.

Several study participants (e.g., parents, teachers, special educators, critical friends) attributed their teams' relative success in selecting and implementing actions to the leadership of the principal or special education administrator. A critical friend stated, "I would attribute a portion of that [success] to the fact that the principal is very involved." Conversely, in cases where there was either a change in leadership or the principal was minimally involved, team members reported a negative impact on the process and its implementation. A special educator explained, "Unfortunately, during this process we lost the principal; it was hard to really make big plans, not knowing who the new person was coming in."

Several study participants acknowledged the "growing pains" they faced and the need to guard against the possibility of the team's work "fizzling" when shifting from the "nice, neat" GSA process, to the real-world implementation of the their action plans. A principal offered,

> We're now in the messy part of it [implementation], which is as it should be. It'll be interesting to see how those pieces all fit there. You *have* to believe in a chaos theory in order to stay sane to do this [implement systems change]. You know that full catastrophe life? We're in it!

Several study participants (e.g., teachers, special educators, administrators) acknowledged that the shift to implementation takes time, persistence, and ongoing effort.

> The administrative team has gone around this spring to each [grade-level] team to have what we're calling the "Whuzz-Up" meeting. What's up? What's going well to be really proud of? What's the challenge? Every single core group of teachers said, "Project EVOLVE is really working. It was really hard at the beginning, we had a hard time figuring this out, but it's really working."

Study participants cautioned that during implementation, teams need to "stay on top" of their status because in a few cases they experienced "some unintended outcomes—just the opposite of what we had expected" (special educator). For example, one school enacted resource reallocation to lower caseloads and provide more instructional time between special educators and students with disabilities, but according to the principal, it led to "students being pulled out more," which was counter to the team's intention of more inclusion in the classroom and more engagement with the classroom teacher. This led to the team's realization that structural or personnel changes were not sufficient; such changes needed to be accompanied by changes in how those personnel operated. A special education administrator

Table 2. Participants' Perspectives Regarding the GSA Process

The GSA Process . . .	Strongly Disagree % (*n*)	Disagree % (*n*)	Agree % (*n*)	Strongly Agree % (*n*)	Don't Know % (*n*)
1. Is an important activity for our school	0.47 (1)	0.00 (0)	53.05 (113)	45.54 (97)	0.94 (2)
2. Is a logical process	0.47 (1)	1.41 (3)	60.56 (129)	36.15 (77)	1.41 (3)
3. Is easy to use	0.47 (1)	9.86 (21)	68.08 (145)	19.25 (41)	2.35 (5)
4. Helped me gain insights about educational support issues in our school	0.00 (0)	5.16 (11)	54.93 (117)	38.03 (81)	1.88 (4)
5. Helped me understand the perspectives of others about educational support issues	0.00 (0)	1.88 (4)	52.58 (112)	42.72 (91)	2.82 (6)
6. Helped our team select appropriate priorities based on the screening and self-assessment steps	0.47 (1)	0.47 (1)	62.44 (133)	30.99 (66)	5.63 (12)
7. Helped our team develop an appropriate action-plan based on our selected priorities	0.00 (0)	1.88 (4)	63.85 (136)	26.29 (56)	7.98 (17)
8. Is worthwhile enough that I would recommend its use to other schools that are interested in improving their educational supports for students with disabilities in general education settings	0.00 (0)	2.82 (6)	51.17 (109)	41.31 (88)	4.69 (10)

Note: GSA = Guidelines for Selecting Alternatives to Overreliance on Paraprofessionals.

explained that it is not helpful if "you still have the same instructional practices of the old model being implemented with the new resources. It's just a different person pulling them [students] out"—that is, the special educators rather than the paraprofessionals.

A team recognized that a more substantial amount of their special educators' newly found instructional time needed to be devoted to working within the regular classroom. According to the special educators, the change "pushed us outside our comfort zone," and some perceived it positively (e.g., "I think we'll be okay, but it'll be ugly first) and others, less so (e.g., "It's not working for me"). An administrator explained that many people reacted to change by asking, "How is it affecting me?" After discussing concerns, the team reported getting "back on track" when it shifted its collective question to "Is this working better for kids or not working better for kids?"

Participant Feedback on the GSA Planning Process

Following Step 8 (action planning), team members completed a consumer feedback questionnaire on the GSA process. Table 2 presents data in aggregate because chi-square analyses identified no significant differences in study participants' responses based on their roles or level of involvement. Responses were obtained from 90% of the 236 team members ($n = 213$) who participated as GSA planning team members: 39 special educators, 36 teachers, 29 general education administrators (e.g., principals, assistant principals), 28 special education administrators, 25 paraprofessionals, 21 parents, 15 critical friends, 10 individuals with disabilities (e.g., students), and 10 others (e.g., related services). More than 73% of study participants ($n = 156$) rated themselves as *very involved* in the GSA planning, nearly 18% ($n = 38$) as *somewhat involved*, and the remaining 9% ($n = 19$) as *minimally involved*.

The majority of study participants (89%–99%) agreed or strongly agreed that the GSA process was an important activity, logical, and easy to use. They agreed or strongly agreed that it helped (a) members gain insights and understand the perspectives of others, (b) teams select appropriate priorities, and (c) their schools develop appropriate action plans (see Table 2). Approximately 97% ($n = 197$) agreed or strongly agreed that the GSA process was worthwhile, enough that they would recommend its use to others.

In rating the overall quality of the GSA process, none rated it *poor*, 8% rated it *fair* ($n = 18$), 48% *good* ($n = 101$), and 44% *excellent* ($n = 93$). Common descriptors of the GSA process were "organized," "practical," "sequential," "logical," "easy to use," "easy to understand and facilitate," "helpful," and "valuable." Study participants indicated that the GSA brought together people with "very different perspectives"; provided "team time" to engage in "self-reflection" that "brought important schoolwide issues to the surface"; "provided a solid process for reaching consensus and developing action plans"; "promoted good discussion" and "rich conversation"; "encouraged communication about issues that we often don't discuss"; and "opened all kinds of doors that may well have stayed very closed, and closed tight." Although these reflective discussions were primarily positive, they were not always easy to hold, as typified within one team when the "special educator teacher blurted out,

'It's hard not to take this stuff personally!'" For many teams, the GSA process reportedly served as a catalyst for action: "None of this information was new to us, but unless we had this process to follow, we wouldn't have done this work."

Many study participants favorably mentioned the involvement of multiple stakeholders on their Project EVOLVE planning teams (e.g., "Having a team of people from different positions helped us see many different perspectives"). When particular team member's participation was mentioned as being notable, it was most frequently that of a parent, a student with a disability, or a critical friend. A teacher stated, "We had a student voice and that became very, very important. I think it opened a lot of eyes, I really do. She had invaluable insights because she had a totally different point of view."

Weaknesses about the process consistently focused on concerns from a small set of study participants (less than 10) who found the GSA process "a little cumbersome" (because some of the wording was "confusing") and "repetitious" and who thought that it "could be interpreted in too many ways." Some study participants expressed concern that the GSA process had too strong an outlook: "Some of the questions seemed a little biased—leading you towards a specific direction—particularly as related to [reducing] dependence on paraeducators." Other respondents were concerned that some of the suggested alternatives involved aspects that were "beyond the control of the team" (e.g., contractual issues); therefore, they hesitated to pursue them.

Impact of the GSA Process

Because the schools pursued different individually determined actions, they yielded correspondingly different types of outcomes. Therefore, the findings do not represent all outcomes but rather some of the most common exemplars. Because the intervention described in this study (i.e., GSA process) was designed to improve educational service delivery and personnel utilization, potential impact on student outcomes is most appropriately characterized as *indirect*. A special educator stated, "There are so many ways to improve instruction, these are the supports that help you do it."

Three years after initiating involvement with Project EVOLVE, 96% (n = 25) of the administrators who participated in the administrative phone questionnaire reported that their schools were continuing to implement the changes they initiated through their GSA action plan, and 77% (n = 20) had extended beyond their initial action plan by addressing other needs or going further on their existing changes (e.g., professional development, further reduction of the percentage of one-to-one paraprofessionals).

In addition, administrators were asked to rate "the extent to which the implementation of your Project EVOLVE/GSA action planning contributed to the occurrence of improvements in student outcomes (e.g., achievement, behavior, inclusive opportunities, social relationships) versus other factors or initiatives," and they were given a 10-point Likert-style scale to do so (1 = *no contribution*, 10 = *major contribution*). Forty-six percent (n = 12) rated the GSA process as making a moderate contribution (ratings 4–7), and 54% (n = 14) rated it as making major contribution (ratings 8–10). Administrators were also asked to rate "the importance of your school's participation in Project EVOLVE as a contributing factor to ongoing school improvement," again with a 10-point scale (1 = *no importance*, 10 = *major importance*): Forty-two percent (n = 11) rated it as being of moderate importance (ratings 4–7), and 58% (n = 15) rated it as being of major importance (ratings 8–10). The following sections describe some of the most commonly reported types of impact that schools experienced, which study participants attributed to their use of the GSA process—including changes in special educator caseloads, changes in paraprofessional utilization, extension of inclusive opportunities, and improvement in classroom collaboration and practices.

Changes in special educator caseloads. Based on paired t tests comparing Year 1 with Year 3, two related demographic variables were significantly different across all 26 schools. The ratio of special educator FTEs to total school population (hereafter referred to as *special educator school density*) is a way to measure the availability of special educators in a school. The availability of special educators increased because the special educator school density changed from a mean of 1 special educator (FTE) to 111.34 students (SD = 44.02) in Year 1 to a mean of 87.48 students (SD = 30.47) by the beginning of Year 3, $t(25) = 4.65$, $p < .0001$. The effect size difference between Year 1 and Year 3 was the largest of any variable included in the annual school demographic data collection, effect size = 0.912. The range of special educator school density across the 26 schools, though still wide, narrowed from 1:51–1:224 in Year 1 to 1:38–1:154 by the beginning of Year 3.

Special educator caseloads (i.e., ratio of special educator FTEs to students on IEPs) dropped from a mean of 14.95 (SD = 4.04) in Year 1 to a mean of 11.86 (SD = 3.81) by the beginning of Year 3, $t(25) = 3.89$, $p = .0006$, representing a large effect size for the difference, effect size = 0.76. In the subset of 19 schools where caseloads numbers declined, they dropped by nearly 5 students per special educator FTE, from 15.83 (SD = 3.36) in Year 1 to 11.03 (SD = 3.26) by Year 3. The majority of these 19 schools included components in their initial action plans that were logically linked to caseload reduction (e.g., resource reallocation to add special educator FTE, lowering the percentage of students identified as having disabilities by improving schoolwide supports). In the remaining seven schools, which did not

take actions logically linked to reduction of special educator caseloads, the number of students on IEPs per special educator FTE rose from 12.53 (*SD* = 4.43) in Year 1 to 14.13 by Year 3 (*SD* = 4.51).

Caseload configuration also changed for some special educators when the schools narrowed the range of grade levels the teachers supported, thus reducing the number of teachers with whom they collaborated, the number of meetings they attended, and the range of general education curriculum they needed to adapt. One special educator stated,

> [Previously] I spanned six grades—that's a lot of different teachers! Now being to focus on just one grade level—it helps me to attend grade level meetings, meet with my three grade-level teachers individually and talk to them about lesson planning and differentiation of instruction.

As a result of schools slightly lowering the number of special education paraprofessionals and slightly increasing the number of special educators, the average number of paraprofessionals whom each special educator supervised dropped by 0.61, from a mean of 3.26 (*SD* = 1.71) in Year 1 to 2.65 (*SD* = 1.47) in Year 3. Among the subset of 20 schools that narrowed the gap between the number of special educators and special education paraprofessionals, the ratio during Year 1 was one special educator for every 3.74 special education paraprofessionals (*SD* = 1.59); by Year 3, the average number of paraprofessionals whom each special educator supervised dropped by 1.50 (*M* = 2.07, *SD* = 1.27). One special educator reported, "Last year I had seven paraprofessionals to supervise, to do that was a headache—this year I have one." On average, when special educators had one to two fewer paraprofessionals to supervise, they reported more time to supervise the remaining paraprofessionals, more time available for instruction and collaboration with classroom teachers, and a reduction in some logistical challenges: "Previously, we would start the day by looking at how many paraprofessionals were out. We spent a tremendous amount of time rearranging staff to make sure that classes were covered." An administrator concurred, "We shifted from focus on managing adults to a focus on students instruction."

Changes in paraprofessional utilization. Notable differences in some paraprofessional variables across time documented a reversal from the trends that had prompted schools to participate in Project EVOLVE, such as the increasing use of paraprofessionals and the increase of their assignment to students in a one-to-one format. Year 1 data indicated that an average of 42.78% (*SD* = 24.58) of all special education paraprofessional FTEs in the 26 schools were assigned one-to-one to students with disabilities; by Year 3, that average dropped to 34.56% (*SD* = 27.74), an 8-point reduction or 19%. Although this change was not statistically significant across the full sample, $t(25) = 1.53$ $p = .14$, the reduction did show a small to moderate effect (effect size = 0.30).

Among the subset of 15 schools that lowered their percentage of special education paraprofessional FTEs assigned one-to-one, average reduction was 23 percentage points or 49%, dropping from 47.64% (*SD* = 28.61) in Year 1 to 24.31% (*SD* = 26.83) in Year 3. "We've worked really hard at developing classroom assistants that are assigned to the teacher and not to individual students" (special education administrator). These schools reported "trying to break up that notion that Johnny has his own private grown-up [paraprofessional] and the teacher is the teacher for everybody else" (principal). Three schools moved completely away from the use of one-to-one assignment of paraprofessionals, and all reported no adverse effects. Conversely, the remaining 11 schools started at a lower baseline percentage (*M* = 36.15, *SD* = 16.77) yet by Year 3 had increased by more than 12 percentage points or 25% (*M* = 48.54, *SD* = 23.31), exceeding the baseline level of the subset of schools that reduced one-to-one use.

Simultaneously, across the entire sample of schools, the overall employment of special education paraprofessionals was slightly reduced, on average by two FTEs per school, which happened primarily through attrition—in most schools, "no one lost their job" (special education administrator). During Year 1, these schools employed, on average, one special education paraprofessional for every 5.93 (*SD* = 3.79) students on IEPs. By Year 3, the ratio had changed to one special education paraprofessional for every 7.33 (*SD* = 5.55) students on IEPs. Throughout the study period, the range of ratios of paraprofessionals to students on IEPs remained stable, though wide, spanning from 1:2 to 1:17.

Note that the aforementioned statistics are presented with only 62% (*n* = 16) of the schools reducing their number of special education paraprofessional FTEs. Approximately 38% (*n* = 10) of the schools took a variety of actions that changed how they utilized their special education paraprofessionals without reducing their number of FTEs. Some schools enacted "new ways of grouping and sharing paraprofessionals in and across classrooms at grade levels" (principal). Others assigned paraprofessionals at a central school level by having "a building aide, a person that floats" (principal) to address paraprofessional absences or other short-term or transitional student needs. Some schools purposely shifted away from having paraprofessionals provide primary instruction, directing them toward provision that was supplemental to the instruction of classroom teachers and special educators. Others assigned paraprofessionals to clerical and paperwork roles that were being assumed by special educators: "We have trained a few paraeducators to do more clerical tasks, such as Medicaid paperwork, completing required forms, typing

IEPs and evaluation reports, which has increased special educators' instructional time" (principal).

In schools where the number of paraprofessionals or the percentage of one-to-one paraprofessionals was reduced, school faculty and some parents expressed anxiety and concern about these actions. Regardless of the ratio of paraprofessionals to students on IEPs (e.g., 1:3, 1:6, 1:10), personnel in virtually every school thought that they were either underresourced or just adequately resourced, and they expressed concern that they could not adequately function with fewer paraprofessionals. Yet follow-up interviews and observations in the schools confirmed that school personnel quickly adjusted to the changes after implementation and reported positive outcomes (e.g., improved student achievement, expanded peer relationships, increased self-determination) without any serious drawbacks. To the contrary, schools reported reductions in discipline referrals, no parent complaints, and no teacher grievances. One special education administrator described,

> [The faculty] are much more positive, the children are doing so much better, the parents are happier. I have not seen a negative part to this at all. I feel that we've gone from an era of overrelying on aides and not getting anywhere, to the point now that we have fewer aides and much higher quality.

Inclusive opportunities. Approximately 85% ($n = 22$) of the schools in this sample reported including 90% of more of their students with disabilities in general education classes as their primary placements (at least 80% of the time) across all 3 years of data collection. Before and after using the GSA process, paraprofessionals were reported to be a valued and important component of each school's strategy for supporting students with disabilities in regular classes. Teachers' and special educators' perspectives were typified by comments such as "We have some very, very good paraprofessionals," "Paraeducators are so important! I value them. They're my right hand," and "They care about kids and they get to know them well, and they work with them well."

Study participants in several schools reported "increased belonging and inclusion" as a result of implementing their GSA action plans. Advancements in the extent and quality of inclusive opportunities were incremental: "Teachers' comfort levels increase each year as they do it a little bit more and it's a little more successful. The more you do something, the easier and more comfortable it gets for you" (principal). A special educator reported, "I had an eighth grader last year who had a lot of pullout. This year she's 100% in the classroom with her peers for the core academics: reading, writing, math, social studies, she's in there with them!"

Three of the four schools that reported inclusion rates below 90% in Year 1 (all middle and high schools) increased the percentage of their students with disabilities in general education classes as their primary placement while maintaining or reducing their baseline levels of paraprofessional utilization. The lone school with an unchanged rate of general class placement stayed at 60% throughout the study. The other three schools increased their general class placement rates by 6 percentage points (89% to 95%) or 7%, 10 percentage points (70% to 80%) or 14%, and 14 percentage points (75% to 89%) or 19%, each while using fewer paraprofessionals, on average three per school. A principal stated, "Our work on the project brought attention to the issue of equitable education for students with disabilities and set into motion a series of events that, over time, have fostered the occurrence of genuine inclusion."

A middle school teacher explained how one of the actions that his school undertook as part of its GSA action plan reinvigorated his thinking about inclusive education:

> I've always been a strong proponent of kids with disabilities in the classroom. To be completely honest, when I got out here in the field—I've only been a teacher for seven years—I found that I almost developed the attitude, "Gosh, I just wish they [students with disabilities] just were out—that somebody else was working with them, and then I could go about my business." That's almost embarrassing to admit, but I'm sure a lot of teachers out there think that way at some point in their career. That's actually the way I felt, you know? Now, since I've been at the workshop [on differentiated instruction] and we're seeing success, it's just been totally changing my mind-set. We can be successful!

Inclusive opportunities were fueled, in part, by reports of increased teacher ownership. After action plan implementation, a principal reported, "We have general education teachers asking great questions about what to do if problems arise rather than asking the special education teacher to remove the student." Another administrator suggested,

> It wasn't necessarily a philosophical shift, but more a practical shift. It wasn't that they [classroom teachers] didn't believe it was their responsibility [to include students with disabilities], it was that they didn't know how to do it, or didn't have the time to do it all by themselves.

Inclusive opportunities were also advanced when teachers established expectations of classroom community through mutual support (e.g., "more peer support when appropriate rather than an instructional aide"). An elementary grade teacher explained,

> A big part of this classroom is peer-to-peer support. I keep telling my students that I can't be the only

> teacher. If I'm over here working with someone, it's your job [to help each other]. We're all in this together!

As parents observed increased natural peer supports, some of them reportedly became more comfortable with increasing their children's distance from a paraprofessional. A special educator described being on the playground one day when a student's mother was visiting. The mother said, "As far as I'm concerned the adult [paraprofessional] doesn't need to be with her on the playground. Her friends can push her around [in her wheelchair] and talk to her, they've known each other for so long—they're fine."

Peer supports also played an increased role in middle-level and high school classrooms, through "natural supports" within classrooms and more formalized "elective credit" supports (e.g., cross-age peer tutoring). A teacher explained how a peer tutor "had really helped Betty [a student with a disability] become more accepted in the class. If we are doing social studies or science, they can work in pairs and help each other out." Participants reported peer supports as being mutually beneficial—that they enhanced the education of the students without disabilities: "It's given them a chance to look at the other student in a different light but also to be a leader or a role model, to help them learn." Teaching teams in several classes made a concerted effort to "give students more voice in making the decisions about what their program looks like," by "listening to students" and by acting on their requests to "treat me as an individual."

Improving classroom collaboration and practices. The most commonly reported impact at the classroom level was "more collaboration and co-teaching this year than we have ever had in our building between special education and regular education." "Common planning times" were established so that "teachers [and special educators] could successfully work together as a team." This led to more instructional time for students with disabilities from teachers and special educators. One teacher explained that the implementation of the action plan "really focused our attention and changed our relationships." As described by another teacher, the changes that faculty made required both "heart and skill."

Capacity-building efforts (e.g., staff development on differentiated instruction) prompted new options for some classroom teachers. A middle school teacher explained,

> I realized I wasn't meeting the needs of some of my challenged learners as well as I could be. On my social studies exams a lot of my students [with disabilities] were unsuccessful even though I knew that through games we played and study guides that they should be having more success. So we started giving a choice on how to take the test. We offered a fill-in-the-blank test with a word bank or a multiple-choice test. Kids who previously had been failing just about every test [with fill-in the blank, no word bank] were suddenly getting 80s, 90s, and 100s.

Some schools enacted changes that they reported as contributing to student outcomes, such as improving "communication with parents" (e.g., printed informational brochures about paraprofessional roles), having classroom teachers assume greater responsibilities for "supervising and scheduling" special education paraprofessionals in their classrooms, and "more proportionately distributing the students [with disabilities] among all the [classroom] teachers." During the baseline period, some schools had "disproportionately large numbers of students with disabilities concentrated in certain classes, thereby placing an undue burden on a few of our faculty members." Several teams reported relying less on paraprofessionals and utilizing their remaining ones better—namely by creating "opportunities for genuine relationships" between students with disabilities and teachers, "approaching students with positive assumptions," "reading between the lines to interpret behavior," being "willing to find and build on student strengths" to give students opportunities to "feel competent," "learning and using specialized instructional strategies," and "creating a more comprehensive approach to dealing with kids with behavior problems—because a portion of our paraprofessional support was geared towards maintaining order among kids that were acting out."

Discussion

Contemporary educational research efforts are understandably focused on documenting direct, causal links between curriculum/instruction and student outcomes. The current study suggests that a variety of more indirect service delivery and support parameters (e.g., special educator caseloads, paraprofessional utilization) are essential to ensure that the potential value of research-based curriculum and instruction are fully realized.

The findings indicate that schools facing challenges associated with potentially excessive or inappropriate utilization of paraprofessionals to support students with disabilities in general education classes benefited from using the GSA process as a mechanism to proactively examine and improve their educational service delivery—especially pertaining to special educator caseloads, alternative utilization of paraprofessionals, inclusive opportunities, and classroom collaboration and practices. Planning tools such as the GSA might reasonably be considered school-level interventions that are two or three steps removed from direct student outcomes, though connected through a logical chain of reasoning. For example, a school team uses the GSA process as a catalyst for planning (the initial

intervention); the plan includes changes in personnel use and capacity building (individually determined options); and implementation results in more collaboration between general and special educators, individually adapted instruction, and increased instructional time from highly qualified teachers, all of which lead to improved student outcomes. It is more difficult to establish a causal relationship when interventions (e.g., GSA) are two or three steps removed from direct student outcomes—unlike, for example, a reading intervention that can be directly assessed with a corresponding reading test and is more amenable to being experimentally verified using a random-assignment control-group design. The resulting individualized plans, with numerous potential combinations of actions, make it challenging under real-world conditions to ascertain the relative contribution of components or account for other intervening threats to the validity of any potential causal claim (e.g., fidelity of intervention). Although we cannot state that use of the GSA results in improved student outcomes from a causal perspective, we can make an argument that indirect interventions (in this case, the GSA) can make important contributions to improved student outcomes and provide a solid service delivery foundation from which evidence-based practices can be even more effective.

Although teams pursuing change by using the GSA process metaphorically entered through the paraprofessional door by considering screening items pertaining to known paraprofessional issues (Steps 2 and 3), the tool quickly shifted them toward a primary focus on exploring alternatives to their existing paraprofessional utilization (Step 4) and considering a series of general and special education practices to develop an action plan (Steps 5–10) that, if enacted, intended to reduce inappropriate reliance or dependence on paraprofessionals. The self-assessment ratings conducted by each school's team verified that they all identified numerous aspects of their practice as needing some or major work, especially pertaining to improving working conditions for school personnel, building the capacity of personnel to teach mixed-ability groups that included students with a full range of disabilities, and improving information sharing with families. If the sampled schools bear any similarity to other inclusion-oriented schools that are struggling with paraprofessional utilization, it suggests that they have many areas to address in an effort strengthen their general and special education supports and practices.

Because the GSA process guides teams in developing individualized action plans, schools implemented different sets of priority actions that varied in content and scope. Regardless of whether a school pursued a relatively modest or ambitious plan, the involvement of multiple stakeholders with varying roles and perspectives (i.e., parents, people with disabilities, critical friends, special educators, teachers, administrators, paraprofessionals) was identified as a critical component of the process. Having regular and special education administrative involvement was considered especially vital during the planning and implementation stages. During planning, the administrators' leadership symbolically signaled the importance of the group's work and ensured that potential actions selected were feasible. During the implementation stage, administrative leadership ensured that momentum was maintained, and they guided inevitably necessary midcourse corrections.

One of the most important things that some teams learned by recognizing implementation missteps was that simply making structural changes, such as lowering a special educator's caseload or shifting a paraprofessional's assignment from being an individual student's assistant to being a classroom assistant, was almost never enough to produce meaningful changes. For structural changes to be most effective, they needed to occur within a broader contextual framework in combination with changes in roles, and they needed to be accompanied by personnel skill development—this recognition was a major reason why schools selected a set of actions to pursue, rather than a single one.

So when one school's reduction of special educator caseloads inadvertently led to more pullout services rather than more classroom inclusion as desired, administrative leadership assisted the faculty in recognizing that it was not enough for the caseloads to be lower. That structural change needed to be considered in light of the school's philosophy of maximizing access to the general education curriculum and classroom for the full range of students with disabilities. It would also mean that how special educators operated would need to change (e.g., more coteaching in the classroom, more collaborative planning with teachers). Expectations and roles of teachers would concurrently need to change (e.g., higher expectations of teacher ownership for the instruction of students with disabilities, shared supervision of paraprofessionals), as well as those of paraprofessionals (e.g., more supplemental rather than primary instruction). All faculty members would need to continue their professional skill development pertaining to working with mixed-ability groups (e.g., differentiated instruction, multilevel instruction). Only through this more comprehensive and integrated approach are schools more likely to realize the value of their structural changes.

Consumer feedback data indicated that the GSA process yielded a range of positive outcomes and was useable in a variety school settings (e.g., rural, suburban, urban, economically disadvantaged, economically advantaged, large, small). The usability claim is bolstered by the fact that the teams used the GSA process at a distance from the developers, without any training or technical assistance. Although consumer feedback on the GSA was primarily positive, some of the negative consumer feedback included criticisms that, as the developers, we considered purposeful aspects of the tool's design. For example, a small number of study participants considered it a weakness that screening

and self-assessment items "could be interpreted in too many ways." The GSA was designed with an assumption that interpreting the meaning of items was most appropriately determined within the team. It was considered more important for there to be intrateam reliability of meaning among members than between the teams and the developers. Rigid operational definitions could not likely account for every conceivable variation across schools. That is why the directions encouraged teams to change wording and to "adapt it [the GSA] in ways that make sense to your team."

As reported in the findings, a few study participants were concerned that the GSA process had too strong an "outlook" and that the tool was "biased," "particularly as related to [reducing] dependence on paraeducators." We agree with those study participants that the GSA does lead teams in a general direction, although we consider that the purpose of the tool rather than a weakness. We encourage schools to use the GSA only if they have concerns similar to those presented in the findings and are making an informed decision to use the tool based on the knowledge that is designed to scrutinize their existing practices and assist them in identifying alternatives to overreliance or inappropriate utilization of paraprofessionals.

An interesting pattern emerged in reference to some of the demographic service delivery variables that were followed over 3 school years. Schools that targeted a service delivery variable and took actions designed to address it experienced progress, whereas schools that chose not to target that action neither progressed nor remained stable; instead, they went in the opposite direction. This occurred in reference to special educator caseloads, the ratio of special educators to paraprofessionals, the ratio of paraprofessionals to students in IEPs, and the percentage of paraprofessionals assigned to students one-to-one. This suggests a potential goal-setting and self-monitoring effect. When schools targeted a variable to improve and took corresponding actions, they typically experienced positive results. When schools did not target a variable, often because their baseline numbers were not of sufficient concern to them to warrant action, they tended to lose sight of that variable and lose ground, often ending up a couple of years later with numbers that approached or exceeded the baseline levels of schools that decided to take actions. It may be helpful for future research to identify a small set of important demographic variables to track annually to avoid regressing in important areas whose values may currently fall within an acceptable range.

Considering that all the schools in this sample exceeded the national average for general class placement of students with disabilities (54%), one of the most perplexing aspects of these data are the ranges present in some of the key demographic variables, as well as the qualitative responses to them by school personnel. For example, in Year 1 special educator school density ranged from 1:51 to 1:224. This massive range raises educational equity issues. Even if we exclude the outliers on both ends, is it fair to assume that students with special needs, in a school where there is one special educator to every 125 students, receive access to the same special education supports as in a school where there is one special educator for every 80 students? Future research should explore special educator school density and the variables that might affect it (e.g., service provision model, level of inclusivity, poverty) so that schools have at least a rough benchmark upon which to judge whether schools are appropriately staffed with special educators. Similarly, how can two schools, each with nearly a 100% general education placement rate for its students with disabilities, draw such different conclusions regarding its personnel—that is, one school reports being adequately staffed with one special education paraprofessional for every 10 students on an IEP, and the other reports being inadequately staffed with one special education paraprofessional for every 3 students on an IEP. At least part of the answer may be found in the interactions between special educator caseload and paraprofessional utilization. Some of the schools with lower paraprofessional utilization tended to assign fewer paraprofessionals one-to-one, and special educators tended to have lower caseloads. However, the schools with higher paraprofessional use tended to have a higher percentage of one-to-one paraprofessionals, and special educators had higher caseloads that included students with special needs who were not on IEPs (e.g., 504, at risk) spread across a wider grade range. Whether there is a functional relationship between these variables remains a question for future research that will require examining the interrelationships among key variables.

Overall, field-testing of the GSA demonstrated that it could (a) provide a practical mechanism for targeted action planning, (b) contribute to a school improvement and student outcomes, and (c) stop or reverse some long-standing trends in some schools, such as the increasing numbers of paraprofessionals and their one-to-one assignments. Note that schools were able to increase inclusive instructional opportunities for students with disabilities without increasing paraprofessional supports. This study highlights the importance of attending to supports and services that have an important, albeit indirect, impact on student outcomes.

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References

Bogdan, R. C., & Biklen, S. K. (2003). *Qualitative research for education: An introduction to theories and methods* (4th ed.). Boston: Allyn & Bacon.

Carter, E. W., Cushing, L. S., Clark, N. M., & Kennedy, C. H. (2005). Effects of peer support interventions on students' access to the general curriculum and social interactions. *Research and Practice for Persons With Severe Disabilities, 30,* 15–25.

Carter, E. W., O'Rourke, L., Sisco, L., & Pelsue, D. (2009). Knowledge, responsibilities, and training needs of paraprofessionals in elementary and secondary schools. *Remedial and Special Education*, *30*, 344–359.

Causton-Theoharis, J., Giangreco, M. F., Doyle, M. B., & Vadasy, P. F. (2007). Paraprofessionals: The "sous chefs" of literacy instruction. *Teaching Exceptional Children, 40*(1), 57–62.

Causton-Theoharis, J. N., & Malmgren, K. W. (2005). Increasing interactions between students with severe disabilities and their peers via paraprofessional training. *Exceptional Children, 71,* 431–444.

Devlin, P. (2005). Effect of continuous improvement training on student interaction and engagement. *Research and Practice for Persons With Severe Disabilities, 30,* 47–59.

Downing, J., Ryndak, D., & Clark, D. (2000). Paraeducators in inclusive classrooms. *Remedial and Special Education, 21,* 171–181.

Doyle, M. B. (2008). *The paraeducators guide to the inclusive classroom: Working as a team* (3rd ed.). Baltimore: Brookes.

French, N. K. (2001). Supervising paraprofessionals: A survey of teacher practices. *Journal of Special Education, 35,* 41–53.

Giangreco, M. F., & Broer, S. M. (2003). *Guidelines for selecting alternatives to overreliance on paraprofessionals.* Burlington: University of Vermont, Center on Disability and Community Inclusion. Retrieved on March 27, 2008, from http://www.uvm.edu/~cdci/evolve/gsa.html

Giangreco, M. F., & Broer, S. M. (2005). Questionable utilization of paraprofessionals in inclusive schools: Are we addressing symptoms or causes? *Focus on Autism and Other Developmental Disabilities, 20,* 10-26.

Giangreco, M. F., & Broer, S. M. (2007). School-based screening to determine overreliance on paraprofessionals. *Focus on Autism and Other Developmental Disabilities, 22,* 149–158.

Giangreco, M. F., Broer, S. M., & Edelman, S. W. (2001). Teacher engagement with students with disabilities: Differences based on paraprofessional service delivery models. *Journal of the Association for Persons With Severe Handicaps, 26,* 75–86.

Giangreco, M. F., Broer, S. M., & Edelman, S. W. (2002). "That was then, this is now!" Paraprofessional supports for students with disabilities in general education classrooms. *Exceptionality, 10,* 47–64.

Giangreco, M. F., Edelman, S. W., & Broer, S. M. (2003). School-wide planning to improve paraeducator supports. *Exceptional Children, 70,* 63–79.

Giangreco, M. F., Edelman, S. W., Broer, S. M., & Doyle, M. B. (2001). Paraprofessional support of students with disabilities: Literature from the past decade. *Exceptional Children, 68,* 45–64.

Giangreco, M. F., Edelman, S.W., Luiselli, T. E., & MacFarland, S. Z. C. (1997). Helping or hovering? Effects of instructional assistant proximity on students with disabilities. *Exceptional Children, 64,* 7–18.

Giangreco, M. F., Halvorsen, A. T., Doyle, M. B., & Broer, S. M. (2004). Alternatives to overreliance on paraprofessionals in inclusive schools. *Journal of Special Education Leadership, 17*(2), 82–90.

Giangreco, M. F., Smith, C. S., & Pinckney, E. (2006). Addressing the paraprofessional dilemma in an inclusive school: A program description. *Research and Practice for Persons With Severe Disabilities, 31,* 215–229.

Giangreco, M. F., Suter, J. C., & Doyle, M. B. (in press). Recent research on paraprofessionals in inclusive schools. *Journal of Educational and Psychological Consultation*.

Hemmingsson, H., Borell, L., & Gustavsson, A. (2003). Participation in school: School assistants creating opportunities and obstacles for pupils with disabilities. *Occupational Therapy Journal of Research: Occupation Participation and Health, 23*(3), 88–98.

Jorgensen, C. M. (1998). *Restructuring high schools for all students: Taking inclusion to the next level*. Baltimore: Brookes.

Lane, K. L., Fletcher, T., Carter, E., Dejud, C., & Delorenzo, J. (2007). Paraprofessional-led phonological awareness training with youngsters at-risk for reading and behavioral concerns. *Remedial and Special Education, 28,* 266–276.

Malmgren, K. W., & Causton-Theoharis, J. N. (2006). Boy in the bubble: Effects of paraprofessional proximity and other pedagogical decisions on the interactions of a student with behavior disorders. *Journal of Research in Childhood Education, 20,* 301–312.

Malmgren, K. W., Causton-Theoharis, J. N., & Trezek, B. J. (2005). Increasing peer interactions for students with behavioral disorders via paraprofessional training. *Behavioral Disorders, 31,* 95–106.

Marks, S. U., Schrader, C., & Levine, M. (1999). Paraeducator experiences in inclusive settings: Helping, hovering, or holding their own? *Exceptional Children, 65,* 315–328.

McDonnell, J., Johnson, J. W., Polychronis, S., & Risen, T. (2002). Effects of embedded instruction on students with moderate disabilities enrolled in general education classes. *Education and Training in Mental Retardation and Developmental Disabilities, 37,* 363–377.

Olson, L. (1994, May 4). Critical friends. *Education Week,* pp. 20–27.

Olson, L. (1998, May 27). The importance of "critical friends": Reform effort gets teachers talking. *Education Week,* pp. 1, 12.

Padilla, R. V. (2004). SuperHyperQual (Version 1.4) [Computer software]. Boerne, TX: Author. (Address: 9723 Boerne Haze, Boerne, TX, 78006)

Pickett, A. L., Gerlach, K., Morgan, R., Likins, M., & Wallace, T. (2007). *Paraeducators in schools: Strengthening the educational team*. Austin, TX: PRO-ED.

Riggs, C. G., & Mueller, P. H. (2001). Employment and utilization of paraeducators in inclusive settings. *Journal of Special Education, 35,* 54–62.

Suter, J. C. & Giangreco, M. F. (2009). Numbers that count: Exploring special education and paraprofessional service delivery in inclusion-oriented schools. *Journal of Special Education, 43*, 81–93.

U.S. Department of Education. (2006a). Table 2–2. *Students ages 6 through 21 served under IDEA, Part B, by disability category, educational environment and state: Fall 2006* [Data file]. Available from Individuals with Disabilities Education Act (IDEA) Data Web site: https://www.ideadata.org/PartBdata.asp

U.S. Department of Education. (2006b). Table 3–2. *Teachers employed (FTE) to provide special education and related services to students ages 6 through 21 under IDEA, Part B, by certification status and state: Fall 2006* [Data file]. Available from Individuals with Disabilities Education Act (IDEA) Data Web site: https://www.ideadata.org/PartBdata.asp

U.S. Department of Education. (2006c). Table 3–4. *Paraprofessionals employed (FTE) to provide special education and related services to children ages 6 through 21 under IDEA, Part B, by qualification status and state: Fall 2006* [Data file]. Available from Individuals with Disabilities Education Act (IDEA) Data Web site: https://www.ideadata.org/PartBdata.asp

Vadasy, P. F., Sanders, E. A., & Tudor, S. (2007). Effectiveness of paraeducator-supplemented individual instruction: Beyond basic decoding skills. *Journal of Learning Disabilities, 40,* 508–526.

Wallace, T., Shin, J., Bartholomay, T., & Stahl, B. (2001). Knowledge and skills for teachers supervising the work of paraprofessionals. *Exceptional Children, 67,* 520–533.

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