

Precarious or Purposeful? Proactively Building Inclusive Special Education Service Delivery on Solid Ground

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Abstract

The absence of unified and inclusive special education service delivery models represents a longstanding challenge to the education of students with the full range of disabilities in inclusive schools and classrooms. An exemplar model is offered for elementary schools within a multi-tiered system of support (MTSS) framework. To establish its practicality and cost-neutrality, the development of the exemplar model was based on personnel utilization data from 69 schools. After building a case for the importance of proactively developing inclusive models of special education service delivery, this article describes: (a) the types and source of the data upon which the exemplar model is based, (b) a set of underlying assumptions, (c) school demographic parameters upon which the exemplar model is based, (d) a comparison of 13 key variables between their actual averages in sampled schools with their proposed status in the exemplar model, and (e) nine conceptual and programmatic shifts designed to accompany the structural changes presented in the exemplar model. The article concludes with implications for practice and future research. Overall, the exemplar model is offered as a starting point to spur discussion, creative problem solving, and action planning to explore model development suited to local contexts.

Key Words: *inclusive education; multi-tiered systems of support (MTSS); paraprofessionals; service delivery; special educator caseloads*

Imagine a house built so close to the edge of a cliff that part of it precariously dangles over, with nothing but open space between it and the rocky shore and turbulent waters below; a strong gust of wind might send it careening. Ropes are attached and lots of people spend their time and energy pulling against gravity in an attempt to stop the house from falling. If wind speeds increase or the cliff starts to erode, more people are enlisted to join the rope lines to keep the house from falling. It works, at least as a stopgap measure, but is incredibly inefficient, illogical, and unsustainable; it is not a place anyone would want to live. Unfortunately, this improbable house on a cliff's edge scenario is surprisingly reminiscent of what routinely plays out in schools across the United States and in some other countries. Rather than

building inclusive special education service delivery proactively and purposely on solid ground, schools too often build too close to the metaphorical brink, then find themselves responding reactively to pressures (e.g., more students with intensive support needs appropriately gaining access to general education classrooms) by adding supports. Often the response is increasing the numbers of paraprofessionals in an effort to stabilize the day-to-day functioning of schools and avoid unwanted consequences (e.g., student behavior problems, teacher concerns, parent concerns). Too often, this reactive, add-on, approach of expanding the cadre of paraprofessionals is, at best, a temporary solution fraught with well-documented practical, ethical, and instructional challenges (Broer, Doyle, & Giangre-

co, 2005; Giangreco, 2010; 2013; Giangreco, Doyle, & Suter, 2014b; Malmgren & Causton-Theoharis, 2006; Rubie-Davies, Blatchford, Webster, Koutsoubou, & Bassett, 2010; Rutherford, 2012; Webster et al., 2010). As depicted in Figure 1, one of the people on the rope line ponders the obvious, “Wouldn’t it be better to build on a more solid footing?”

Imagine if the resources currently directed toward avoiding and stabilizing were redirected. How might schools reallocate these freed-up resources to proactively design and implement purposeful models of inclusive service delivery that account for the full and increasing range of diversity (e.g., abilities, language/culture, economic and domestic challenges) presented by students attending our schools? Within the silo of general education, adopting models of service delivery is historically common. Elementary schools organize their classrooms, personnel, and curricula into various configurations. Many rely on single-grade classrooms, while others offer multigrade options, multiyear loops where cohorts of students stay with the same teacher for more than 1 year, team teaching (teachers specializing in various curriculum areas, e.g., math/science, language arts/social studies), or other arrangements. These are conscious choices made by school communities meant to facilitate predictability, sometimes to provide options within schools for students and families, and presumably to facilitate positive outcomes for students. The service delivery models also have corresponding practices to support the respective models. For example, schools typically adhere to a target range for class size, attempt to maintain certain staffing ratios for professional support services (e.g., literacy specialists, school counselors), and develop master schedules designed to facilitate the operation of their model (e.g., literacy blocks, grade-level team meetings).

In other words, schools have general education models of service delivery, although they may or may not account for the full range of student diversity in those schools. In many cases, these models were designed and built before schools encountered the wider range of student diversity they serve today. With the incremental enrollment of students with increasingly intensive support needs, the metaphorical house continues to be pushed ever closer to the edge of the cliff and resources spread increasingly thin. Rather than reconceptualizing school service delivery to

meet the needs of this expanded student diversity, some schools have made slow and minimally sufficient stabilizing changes akin to adding people to the rope lines in an effort to keep the house from falling off the cliff. This tinkering around the edges has worked at times, but typically is neither sustainable nor desirable from an educational or equity perspective and may result in wasted resources.

Unified educational systems that support the inclusion of all students in general education classrooms, including those with the full range of disabilities, are rooted in contemporary approaches that are focused on high-quality policies, curriculum, evidence-based instructional strategies, and regular use of data for decision making (Burrello, Sailor, & Kleinhammer-Tramill, 2013; Cook & Tankersly, 2013). Multi-tiered systems of supports (MTSS; Cusumano, Algozzine & Algozzine, 2014; Gamm et al., 2012) include both academic supports through response to intervention (RtI; Sailor, 2009) and behavioral supports through schoolwide positive behavior interventions and supports (PBIS; Sugai & Horner, 2009; Sugai, Horner, Fixsen, & Blase, 2010). Within inclusive conceptualizations of multi-tiered systems of service delivery, tiers are “defined in terms of *intensity* (time and focus) of instruction rather than as a place, provider, or instructional strategy” so “theoretically any tier of instruction could occur in any place” (Batsche, 2014, p. 183). Since MTSS approaches are subject to substantial interpretation and varying implementation, we encourage that they be viewed and implemented in a contemporary and inclusive context to ensure that they provide high-quality, equitable, and increasingly inclusive opportunities and positive outcomes for students with the full range of disabilities and other nonstandard needs.

Ferri (2012) cautioned the field that RtI/MTSS approaches, if inappropriately interpreted as mechanisms to sort and separate, could undermine inclusive educational opportunities and serve to maintain the status quo of traditional (segregated) special education, rather than advancing the field. Similarly, others have encouraged us to question the extensive use of pull-out special education approaches (Rea, McLaughlin, & Walther-Thomas, 2002) and to reject “either-or” scenarios that suggest a student with a disability can *either* be included in general education classes *or* receive appropriately individualized and supported instruction, as if these options were



ON THE BRINK IS YOUR SERVICE DELIVERY MODEL BUILT TOO CLOSE TO THE EDGE?

Figure 1. On the brink cartoon. Printed with permission.

mutually exclusive (Giangreco, Carter, Doyle, & Suter, 2010). Setting up such a false choice is unnecessary and, ultimately, hampers progress in our field. Collectively, we have long known how to pull students with disabilities out of regular classes and provide individualized instruction. We also have a substantial history of placing some students with disabilities in regular classes with insufficient supports and without providing quality instruction. Neither of these options is desirable. What we are less skilled at, collectively, is ensuring quality, supported, individually appropriate, curriculum and instruction for students with the full range of disabilities while retaining student benefits (and their rights) to be educated alongside their peers without disabilities in the classrooms and schools they would attend if they were not labeled disabled. Without the ongoing

presence of students with the full range of disabilities in the regular classroom, the impetus for change and the opportunities to problem solve and create new solutions are less likely to occur, thus unnecessarily compromising or delaying their educational and civil rights (Giangreco, Doyle, & Suter, 2012; 2014a). Any worthy aim of this sort is undoubtedly a messy enterprise with unexpected challenges, learning, and benefits along a potentially bumpy but, ultimately, important path.

These broadly conceived approaches to supporting the academic and social/behavioral outcomes of students (e.g., RtI, MTSS, PBIS) acknowledge the importance of school service delivery, and some research is beginning to emerge (McInerney, Zumeta, Gandhi, & Gersten, 2014), yet few studies or theoretically grounded conceptualizations are available regarding the connec-

tions between key service delivery factors and implementation of various evidenced-based approaches. Additionally, studies of evidenced-based instructional strategies rarely report a variety of important service delivery considerations (e.g., special education caseload, ratio of special educators to special education paraprofessionals) that would assist consumers in determining the feasibility of implementation under real-world conditions. It has been posited,

Although our national focus on research-based curriculum and instruction remains vital, without effective service delivery configurations, most notably thoughtful personnel utilization and deployment, even the most advantageous innovations in curriculum, instruction, and social/behavioral interventions likely will not fully realize their intended impact. (Giangreco, Suter, & Hurley, 2013, p. 122)

Recent research in inclusion-oriented schools has identified a series of service delivery variables and practices that have an impact on equitable access to appropriate and quality educational opportunities. Such variables and practices include: (a) special educator caseload size and configuration; (b) range of grades supported by special educators; (c) percent of pull-out instruction delivered by special educators; (d) ratio of special educators to special education paraprofessionals; (e) extent of one-to-one paraprofessional deployment; (f) numbers of paraprofessionals special educators supervise; (g) percent of student instructional time with teachers, special educators, or paraprofessionals; and (h) roles of team members and corresponding time spent in those roles (Giangreco, Broer, & Suter, 2011; Giangreco, Suter, & Hurley, 2013; Suter & Giangreco, 2009).

One of the most notable variables identified in this research has been termed *special educator school density* (i.e., the ratio of special educator full-time equivalents [FTE] to total school enrollment). This variable has been identified as highly correlated with: (a) the percentage of students identified as disabled, (b) individual special educator caseload size, and (c) self-efficacy ratings of special educators (Giangreco, Suter, & Hurley, 2013). As a variable that combines a school demographic component (total enrollment) with a personnel availability component (special educator FTE), *special educator school density* highlights

that special educator self-efficacy ratings can be affected by contextual variables beyond the immediate control of special educators. Whereas, recent special educator self-efficacy considerations focus primarily on perceived skills and abilities of special educators over which they have some level of control (e.g., creating a welcoming environment, promoting acceptance of students, differentiating lessons, managing classrooms with diverse student characteristics, utilizing different teaching strategies; Dawson & Scott, 2014).

Most recently, in a study of 51 Vermont schools spanning 3 school years (2010-2011, 2011-2012, and 2012-2013), a significant relationship (i.e., large effect size) was found between a school's *special educator school density* ratio and special educator absence ($r = 0.57, p < 0.001$). In schools with a low *special educator school density* ratio (more special educator FTE per total enrollment) special educator absences tended to be lower. As the *special educator school density* ratio rose, so did the number of special educator absences. For example, in School A, with a lower *special educator school density* ratio of 1:72 (one special educator FTE for every 72 students in the school), the special educators were absent 10.4 days, on average, per year. Whereas in School B, with a higher *special educator school density* ratio of 1:110, the special educators were absent 20.3 days per year, on average (Suter, Giangreco, & Bruhl, 2014). These initial findings further highlight the potential importance of understanding how *special educator school density* may be interrelated with other aspects of providing sound school service delivery, in this case by linking it to the attendance of school personnel as a vital element of ensuring consistent implementation of instruction.

The purpose of this article is to provide an example of an inclusive special education service delivery model for elementary schools, with potential application in middle schools, based on a sample of actual school resources in one state. By basing an exemplar model on empirical data from real schools, we hope to demonstrate the plausibility of the model based on cost-neutral reallocation of average available school resources. As an alternative to approaches that are currently in use, it is not offered as *the* model, but rather as an exemplar meant to serve as a starting point to spur discussion, creative problem solving, and action planning to explore model development suited to local contexts.

In the remainder of this article we describe: (a) the types and source of the data upon which the exemplar model is based, (b) a set of underlying assumptions in the model's development, (c) school demographic parameters upon which the exemplar model is based, (d) a comparison of 13 key variables between their actual averages in sampled schools with their proposed status in the exemplar model, and (e) nine conceptual and programmatic shifts designed to accompany the structural changes presented in the exemplar model. We conclude with implications for practice and future research.

This article fills an important gap in the literature by describing a practical, data-based, and conceptually grounded example of an inclusive special education service delivery model where little information is currently available. It offers an initial conceptualization to think about and apply a wide range of school demographic, personnel utilization, and service delivery variables to bolster these often-neglected aspects of MTSS. In doing so, it can offer guidance to schools that are committed to serving the full range of student diversity presented in their communities. Although the example presented herein is based on personnel and demographic data from actual schools, the exemplar model itself is aspirational; it demonstrates how those schools' resources might be reimaged to support ever-widening student diversity in general education classrooms.

Data Upon Which the Exemplar Model Is Based

The data upon which the exemplar model in this article is based were collected between 2006 and 2013 in Vermont schools across all grade levels (K-12) using a data collection protocol known as Numbers That Count. Of the 69 school cases that were used to calculate the averages described in this article, 51 cases (74%) were reported in two earlier studies (Suter & Giangreco, 2009; Giangreco, Suter, & Hurley, 2013). The remaining 18 cases (26%) used the same data collection protocol described in the aforementioned studies, but were not included in those earlier studies (e.g., data collected after publication submission). Based on categories established by the National Center for Educational Statistics (2012), approximately 23% ($n = 16$) of the cases were designated as schools in small cities, 16% ($n = 11$) in midsized suburban

communities, and 61% ($n = 42$) as small town or rural locales.

In all 69 cases, three types of institutional review board (IRB)-approved questionnaire data were collected in each school at a single point in time. First, participating school administrators completed the 20-item School Demographics Questionnaire for their respective schools by providing basic school characteristic data such as class size, student enrollment, and diversity information (e.g., economic, language, eligibility for special education), as well as a variety of personnel data (e.g., numbers for special educators and paraprofessionals). Second, on a school-by-school basis, special educators from whom informed consent had been received completed a 23-item Special Educator Questionnaire, responding to items about their work roles, caseload parameters, time use, and the paraprofessionals they supervised. These same special educators also completed a 19-item Student Characteristics Questionnaire pertaining to students on their caseloads receiving full-day, one-to-one, paraprofessional support. This questionnaire included items on demographics, instructional time, and reasons for having a one-to-one paraprofessional. Within 1 month of completing data collection at each school, investigators provided a written data summary and conducted a 2-hour debriefing meeting with school personnel to review their findings. (See Suter & Giangreco [2009] and Giangreco, Suter, & Hurley [2013] for additional methodological details.) As noted in these two earlier studies, the primary limitations of these data, related to the purpose of the current article, are that they were collected from a convenience sample all in Vermont schools and data provided by special educators were based on self-reporting without other corroborative measures. While we acknowledge that the sampled Vermont schools are not representative of some other schools on various dimensions (e.g., class size, poverty indices, percent of students who speak English as a second language), this does not detract from opportunity to use the average sampled data to build an exemplar model. As suggested throughout this article, we encourage the development of a variety of models at the school level that are individualized in ways that suit local contexts. Despite these data limitations, the averages and their proposed reallocations offer potentially valuable guidance to schools seeking to extend

inclusive opportunities to more students with disabilities in general education classes.

In putting forward an exemplar model of inclusive special education service delivery, we reasoned that using averages from a set of actual inclusion-oriented schools would move beyond the hypothetical by providing a realistic foundation. Furthermore, given the financial conditions whereby many schools are being asked to reduce expenses or minimize increases, using average data from actual schools allowed us to demonstrate how, by reallocating existing resources, a cost-neutral example could be designed.

Underlying Assumptions

A three-class exemplar model, depicted in Figure 2 at a single grade level and in Figure 3 at the whole-school level, is based on a set of underlying assumptions. First, the school, rather than a school district, is the unit of analysis. Important demographic and service delivery data may be obscured when examining district-level, rather than school-level, data. The structural features depicted in the figures are meant to be aligned with congruent educational practices; we do not mean to suggest that structural changes alone are sufficient.

Second, the exemplar model is predicated on the assumption that the school serves all, or nearly all, of the students with disabilities who would typically attend the school if they did not have a disability label. Comparing two schools of the same size with approximately the same amount and type of personnel resources is an unfair comparison if one school serves all available students with disabilities and other special needs and the other school sends some of its students with disabilities who have higher supports needs or certain disability classifications (e.g., autism spectrum disorders, intellectual disability, multiple disabilities, emotional behavioral disorders) to regional special classes in other schools and/or sends students not eligible for special education, but at risk of school failure, to off-campus alternative school programs. By serving all available students, the school does not have an artificially low number of students with disabilities or other special needs that would exist if these students were sent away from the school to receive services. Conversely, the school does not have an artificially high and/or disproportionate number of students with disabilities or other special needs

that occurs when schools host “special programs,” whereby students who would not typically attend the school do (e.g., hosting a regional program for students with autism spectrum disorders).

Third, model parameters are designed to promote appropriate supports in the school and classrooms within a specified range of total enrollments. For example, the exemplar model depicted in Figure 3 shows proposed resources for a total school enrollment range of 357–441. Establishing an initial base model of support in a particular school (e.g., enrollment range, number and size of classrooms, number of special educators, number of paraprofessionals) will require locally determined individualization to account for local demographics (e.g., poverty, cultural/linguistic diversity). Ongoing evaluation must be undertaken to determine the appropriateness and effectiveness of the initial base model. This is vital, because once established and deemed effective, a school’s model is designed to provide predictability in personnel staffing patterns that would remain the same within established school and classroom enrollment ranges. Assuming that a school’s total enrollment stayed within a specified range, there should be no need to add or subtract school personnel when a student with a disability or special need is added or subtracted from the class rolls for various reasons (e.g., disability label, declassification, moving).

In other words, there is no incentive to label students as disabled because the school or classroom does not get more resources by labeling students and does not lose resources if students are not identified as eligible for special education, declassified, or leave for other reasons. Personnel would expand and contract based on changes in total enrollment that extended beyond planned ranges. This is especially important because some current U.S. school funding models work at cross-purposes with MTSS aims. Recent research has documented that, when schools reduce their special education eligibility numbers by effectively implementing stronger general education supports, they simultaneously may lose special education personnel resources because those resources were linked exclusively to services designated as special education, despite the fact that their student population is unchanged, merely categorized/labeled differently (Giangreco, Suter, & Hurley, 2013; Suter & Giangreco, 2009).

Fourth, in the exemplar model, general education teachers are the lead professionals in

Three-Class Service Delivery Model (Elementary/Middle School)

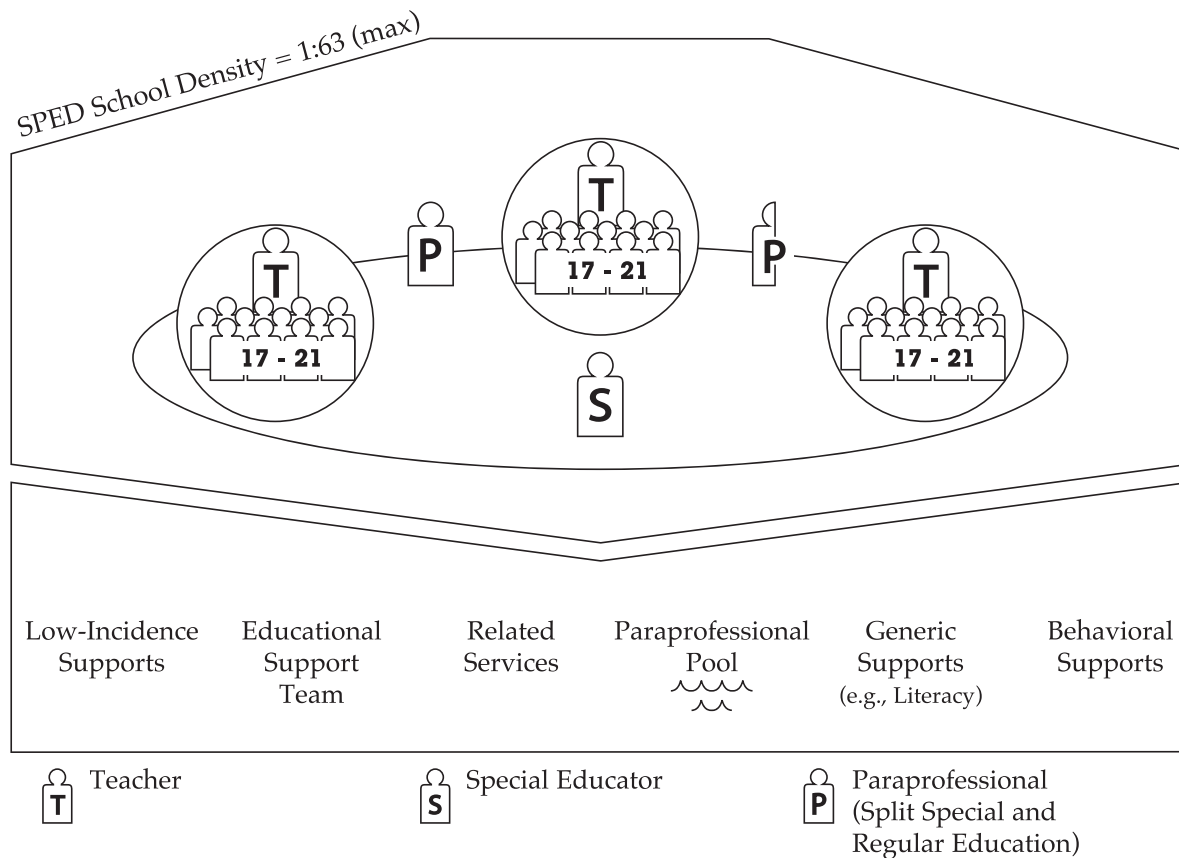


Figure 2. Three-class model. SPED = Special educator.

each classroom for all students placed with them. Therefore, they engage with and maintain educational ownership for all students in their classrooms, regardless of label (e.g., disability). As the only licensed professionals in the classroom at all times, supports designed ultimately to help students (e.g., special education, related services) are designed to build the capacity of and support classroom teachers. This necessitates special educator roles that are geared toward more in-class support (e.g., co-teaching; creative problem solving with teachers; co-developing universally designed, differentiated, or adapted instruction), rather than pull-out supports that historically have been designed for students but do little to support teachers or build their capacity (Giangreco, Suter, & Graf, 2011).

Fifth, in the exemplar model, paraprofessionals are assigned to classrooms and are available to serve any students (with or without disability labels) under the shared direction and supervision of the teacher and special educator. They would rarely, if ever, be assigned to individual students in a one-to-one format. This allows teachers to deploy paraprofessionals flexibly while reducing potential stigmatization of a subset of students receiving paraprofessional supports. In developing the exemplar model depicted in Figures 2 and 3, we included paraprofessionals because, as suggested by McDonnell and Jameson (2014), despite the legitimacy of the concerns about current paraprofessional utilization in inclusion-oriented schools, “it is likely that paraprofessionals will continue to be an essential part of students’ educational teams” (p. 102). That said, we do not mean to

Whole-School Inclusive Service Delivery Model

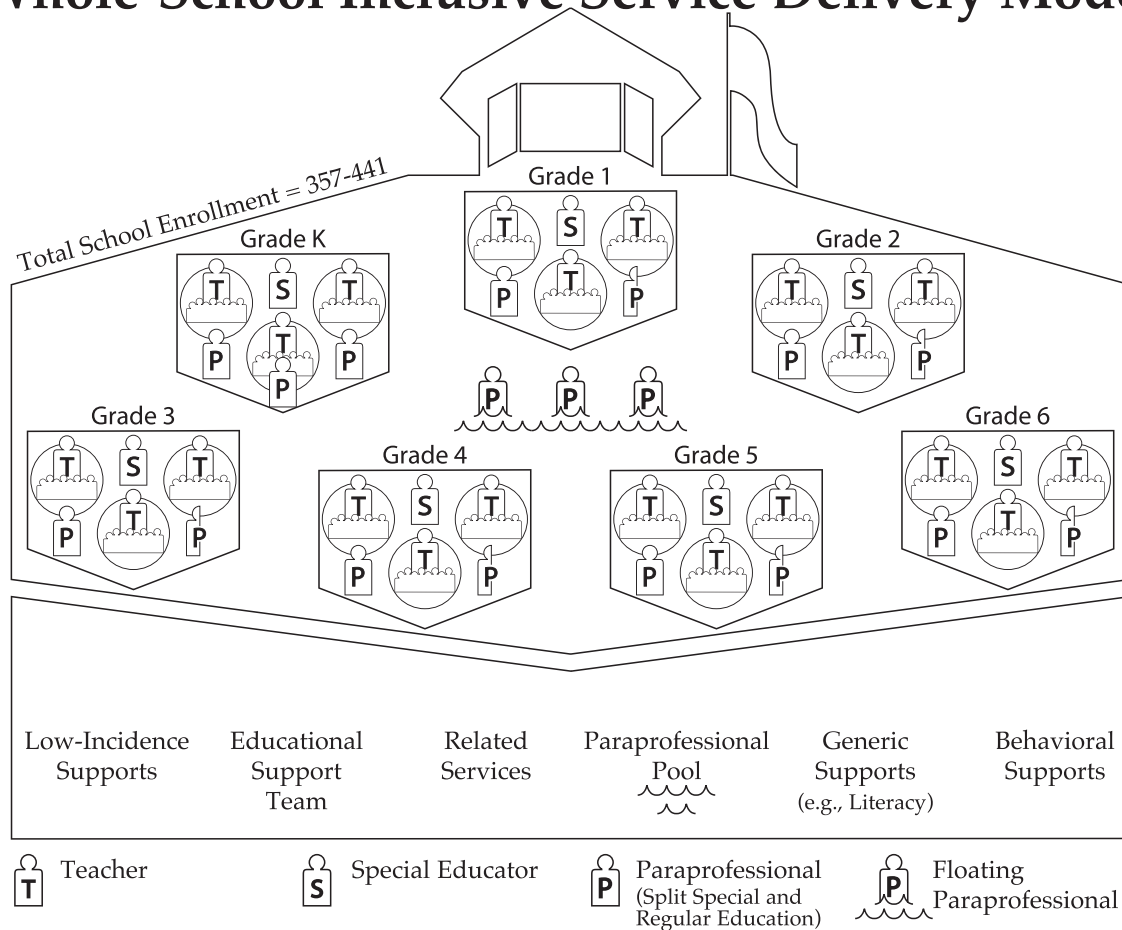


Figure 3. Whole-school model.

put limits on possible service delivery configurations or suggest by our exemplar that paraprofessionals necessarily need to be part of all inclusive classroom or school service delivery models. We can envision school models built on a combination of licensed professionals (e.g., teachers, special educators, related services providers) and natural supports (e.g., peer mentoring; Carter, Sisco, Brown, Brickham, & Al-Khabbaz, 2008; Carter, Sisco, Melekoglu, & Kurkowski, 2007) that do not necessarily rely on paraprofessionals, or rely on them less extensively than depicted in the exemplar model.

Sixth, since the exemplar model is predicated on special educator services being offered primarily in class, rather than as pull-out services, the combined availability of special educator and paraprofessionals (with split general education/special education full-time equivalent [FTE])

means that a second adult can be in the every classroom approximately 80% of the time, on average (based on core team staffing). This also means that teachers can expect to have their class by themselves for the remaining 20% of the time, depending on how paraprofessionals are scheduled during classes such as art, music, and physical education. Establishing an expectation that a classroom teacher will function independently in his or her own classroom for at least some portion of the school day is not necessarily a widespread practice in the United States in situations where students with low-incidence disabilities (e.g., intellectual disability, autism spectrum disorders, multiple disabilities) are included. Although explicit data are not available on this topic, there are international precedents for the expectation of autonomous teacher functioning given a classroom consisting of students with heterogeneous

characteristics that includes students with low-incidence disabilities. A notable example is Italy, where an insegnante di sostegno (support teacher/special educator) is assigned to a class that includes a student with substantial support needs for only a portion of the day and where paraprofessionals/assistants typically are not utilized for instruction (D'Alessio, 2011; Giangreco & Doyle, 2012).

School Demographics

The model presented in Figures 2 and 3 is based on demographic averages from the 69 Vermont schools where the Numbers That Count data collection was conducted. Since contextual considerations are key to the development of any locally tailored model, we offer a few key demographic variables here so readers can discern how closely or not these averages align with their local demographics, thus allowing for potential adjustments. For example, if a school has substantially higher percentages of English Language Learners or students living in poverty, school teams could reasonably make adjustments to their initial base model to account for such community characteristics.

Schools upon which the exemplar model was based had approximately 10% ($SD = 10.97$) of their students with minority backgrounds and 6% ($SD = 8.77$) were identified as English Language Learners (ELL). As a proxy measure of economic disadvantage, 35% ($SD = 25.63$) of the students enrolled in these schools were receiving free or reduced-price lunch (FRPL). Approximately 14% ($SD = 4.56$) of students had individual education programs (IEPs) based on their eligibility for special education. When counting all students on some type of special educational needs plan (i.e., IEP, 504 plan, educational support team/at risk), this comprised approximately 30% ($SD = 11.11$) of all enrolled students. Although the sample means align quite closely (within a few percentage points) with current Vermont statewide data (National Center for Educational Statistics, 2012), it should be noted that sample data span multiple years. While the sample data are reasonably representative of Vermont statewide data, any such representativeness (or lack thereof) is not the most relevant factor for schools considering these data and the model exemplar presented herein. Rather, as mentioned earlier, what is more important is for those interested in

applying the elements and concepts of this model exemplar to discern how closely or not the sample averages align with their local demographics and to make potential adjustments for relevant factors.

Key Variables: Actual Averages and Proposed Status in Three-Class Model

In this section we present 13 key variables, comparing the actual averages in the 69 schools upon which the model is based with the proposed status of these variables in the three-class exemplar model (see Table 1). As highlighted in the aforementioned underlying assumptions, total enrollment is a key aspect of the model; beginning with an average school total enrollment of 433, the three-class model (see Figure 3) is designed for use in schools with total enrollments ranging from 357 to 441 students. Within this range, personnel resources typically would not be added or subtracted based on changes in the number of students labeled as disabled. The exemplar model can be applied to schools of any size. If the total school enrollment moved beyond the specified range, either above or below, it would trigger the addition or subtraction of three classrooms and the corresponding core personnel, namely classroom teachers, special educators, and paraprofessionals (as shown in Figure 2); this might require some reconfigured teams to cross two grade-levels. Other factors, such as multiyear enrollment projections will be important to inform decisions about whether to fully implement the model's three-class addition or subtraction when triggered. Yet when the model exceeds its upper limit and is then only adjusted, for example, by the addition of one class and teacher rather than the three-class team, the school will constantly remain at or near the metaphorical brink.

Within this total enrollment range (i.e., 357–441), students would be placed in 21 classrooms (three classes at seven grades, K-6), ranging in size from 17 to 21 students. The model could readily be applied to schools serving different elementary and/or middle school grade ranges (e.g., grades K-8, K-4, or 5-8). Although this class size range aligns closely with average class size in the schools upon which the model was developed, we recognize that many schools currently have substantially higher average class sizes. We contend that if schools are serious about including all students, retaining personnel, and pursuing

Table 1
Comparison of Key Variables

Key Demographic and Service Delivery Variables	Means (<i>SD</i>) <i>n</i> = 69 Schools	Three-Class Exemplar Model
Total School Enrollment (Number of Students)	433 (285.3)	357-441
Class Size	18.4 (2.3)	17-21
Percent of Students With Disabilities in Regular Education Classes (\geq 80% of the time)	84.5% (14.9)	\approx 100%
Number of Special Educator FTE	5.1 (3.1)	7
Special Educator School Density (Ratio of Special Educator FTE to Total School Enrollment)	1:88 (29.2)	\leq 1:63
Special Educator Caseload (Students on IEPs)	11.3 (3.2)	8.7
Grade Range Served by a Special Educator	3.7 (2.0)	1
Percent of Special Educator Out-of-Class Instruction	77% (30.1)	$<$ 20%
Number of Regular Education Paraprofessional FTE	4.6 (4.5)	5
Number of Special Education Paraprofessionals FTE	15.6 (9.5)	10
Percent of 1:1 Paraprofessionals	48% (23.6)	\approx 0%
Special Service Concentration (Ratio of Special Educator FTE to Special Education Paraprofessional FTE)	1:3.3 (1.4)	1:1.4
Percent of Special Education Instruction Provided by Paraprofessionals	73.2% (0.1)	\leq 20%

Note. FTE = full-time equivalent; IEP = individualized education program.

quality educational opportunities and outcomes, they will need to confront the foundational issue of class size (Finn, Gerber, & Boyd-Zaharias, 2005; Finn, Pannozzo, & Achilles, 2003; Graue, Hatch, Rao, & Oen, 2007).

In the exemplar model, as close to 100% of students with disabilities as possible would be included in general education classes at the highest federal reporting level for 80% of the school day or more. This would represent approximately a 15 percentage-point increase from the existing average in the schools upon which the model is based, where 84.5% ($SD = 14.9$) of students with disabilities are placed in general education classes at least 80% of the time. The most recently available data indicate that, nationally, 61% of students receiving special education, 74% in Vermont, are placed in general education classes 80% of the time or more (United States Department of Education, 2013).

Inferred here is that classroom practices would need to change so that they are aligned with the full range of student diversity addressed in the exemplar model. Historically, some schools have considered placement of certain students with

disabilities by asking questions such as, “Do the existing conditions in the classroom (e.g., environment, technology, personnel capabilities, attitudes, practices) suit the student’s needs?” By posing the question this way, it puts the onus on the student to fit into the classroom and likely maintains the status quo. Too often, the inferred message is, if the student can fit in without necessitating substantial change, he or she can be included; whereas, if substantial change is needed, such students are more likely to be excluded. By reframing the question to ask, “What changes would be required in the classroom (e.g., environment, technology, personnel capabilities, attitudes, practices) for a student with unique needs to be successfully included?,” more of the onus is put on the school to design a better person-environment fit and remove barriers to inclusion. When school teams act on this second type of question, they challenge the status quo and extend their capacity. Even though the impetus for change may have been initiated to address the needs of students with extensive or pervasive support needs, such changes (e.g., universal design; Nelson, 2014) likely will benefit a wider

set of students beyond those for whom the original change was targeted.

In the exemplar model, the average number of special educators in the school increases from approximately five to seven full-time equivalents (FTE). This addition is achieved by reallocating resources garnered by reducing the cost-equivalent number of paraprofessionals in FTE; in these schools the cost of one special education was equivalent to approximately three paraprofessionals. The number of paraprofessional positions needed to hire one special education teacher FTE or other certified teacher (e.g., literacy specialist) will vary from school to school based on a variety of local factors such as pay scales and benefit packages (American Federation of Teachers, 2014). In some schools with higher pay and substantial benefit packages for paraprofessionals, it may require the reallocation of only two paraprofessionals to equal the cost of one early career teacher, whereas in a school with lower pay and fewer benefits, it may take three and a half paraprofessionals.

This increase in special educator FTE has a ripple effect by: (a) reducing the special educator school density from 1:88 to a maximum of 1:63; (b) decreasing the average special educator's caseload of students receiving special education from over 11 to under 9; (c) limiting the number of general education classrooms a special educator supports to three; and (d) reducing the average grade range covered by special educators from nearly four to one or two, thus decreasing the range of general education curriculum content with which they must be familiar.

As indicated earlier in the underlying assumptions, in the exemplar model, special educators are working primarily in the general education classroom and have a heterogeneous caseload of students who are present in the classrooms where they are assigned; if extra support is needed (e.g., low-incidence, literacy), it can be built into the MTSS. The increased availability of special educator FTE sets the stage for one special educator to work on each grade-level team with three general education teachers. This four-educator team would individually determine how the special educator's time should be most appropriately distributed and scheduled in conjunction with the school administrators. For example, a special educator's time could: (a) be divided equally into thirds with the time periods rotating daily, (b) follow a block schedule where the special

educator spends half or full days in particular classrooms, or (c) it could follow any other pattern the team determines.

In-class special educator support means shifting away from an average of 77% of special educator instructional time occurring in a pull-out format to less than 20%, and as close to zero as appropriate. Reallocating resources to provide a greater availability of special educator FTE is of questionable value unless the nature of the instructional support shifts away from pull-out toward more capacity-building in-class models (Ferri, 2012; Jorgensen, McSheehan, & Sonnenmeier, 2009; Rea et al., 2002; Sailor, 2009; Theoharis & Causton, 2014). This model allows for large group, small group, and individual instruction to occur for any student within the classroom and does not preclude a small percentage of pull-out instruction (i.e., < 20%) for any student if the team has first considered less intrusive options and agrees that it is necessary to meet an individual student's educational needs.

While the average number of general education paraprofessionals in the exemplar model would remain virtually the same, five FTE, the number of special education paraprofessionals would be reduced from approximately 16 to 10 FTE. As shown in Figure 3, the combined total of 15 paraprofessionals (five FTE in general education, 10 FTE in special education) would each be split-funded, meaning every classroom-based paraprofessional would have both general and special education funding and responsibilities. This is meant to increase flexibility, eliminate unhelpful hierarchies among paraprofessionals, and send the important message that all faculty and staff are responsible to support all students. Additionally, the exemplar model is predicated on shifting away from the extensive use of paraprofessionals assigned one-to-one to individual students, moving from the sample average of 48% of paraprofessionals assigned one-to-one to zero, or as close to it as possible, in the exemplar model. This not only reduces the documented problems associated with the extensive use of one-to-one paraprofessionals (Giangreco, 2010), it provides more opportunities and greater flexibility for teachers and special educators to deploy paraprofessional resources in different and, hopefully, more effective ways.

The reallocation of resources from special education paraprofessional FTE to special educator FTE directly changes the *special services*

concentration, namely the ratio of special educators to special education paraprofessionals in FTE, from 1:3.3 to 1:1.4. There are at least two important implications related to this shift in the exemplar model. First, instead of having, on average, each special educator supervise over three special education paraprofessionals, that number would be reduced to less than one and a half. This allows more time available for directing the work of the paraprofessionals. Second, when considering the percent of instruction provided by special education personnel (i.e., special educators, related services providers, special education paraprofessionals), the average percent provided by special education paraprofessionals would be reduced from approximately 73% to less than 20%. This is more aligned with an educationally defensible role of paraprofessionals providing supplemental, rather than primary, instruction that is planned and monitored by a highly qualified teacher or special educator (Causton-Theoharis, Giangreco, Doyle, & Vadasy, 2007).

Even with the reduced number of paraprofessionals, the resource reallocation depicted in the three-class exemplar model documents a substantial availability of personnel, albeit deployed differently. As shown in Figures 2 and 3, for grades 1 through 6, each grade-level team includes three teachers, one special educator, and one and a half paraprofessionals (with split general education/special education funding and function). This means that each classroom within the team includes a 1.0 FTE classroom teacher, a 0.33 FTE special educator, and 0.50 FTE of a paraprofessional.

Figure 3 depicts two important caveats. First, unlike the other grades, the availability of paraprofessionals in the three-class kindergarten team is doubled from one and a half in other grades to three in kindergarten—one per class. The reason is simple—in virtually every school we have visited over the past several years, we have heard a consistent refrain from early grades teachers and school administrators that more hands are needed in kindergarten to address the developmental needs of all of the students. Yesil Dagli (2012) points out that kindergarten teachers face different challenges than other elementary grade teachers: (a) “the developmental stages of students in kindergarten are different than older students, because younger children have difficulty, for example, taking others’ perspectives, sharing, sitting still, and following directions” (pp. 3122-

3123), and (b) “students in kindergarten are experiencing the transition to formal schooling” (p. 3123).

Second, the center of Figure 3 depicts *floating paraprofessionals*. Floating paraprofessionals are assigned by school administrators to address a variety of potential needs on a temporary or sustained basis: (a) short-term intensive support needs for an incoming student that will be faded to the team model of supports; (b) filling in for paraprofessional absences; (c) being available for unexpected student support (e.g., assisting in supervising or monitoring student safety during a behavioral crisis); (d) providing intermittent supports previously provided by one-to-one paraprofessionals (e.g., assisting a student with eating, toileting, dressing); or (e) other appropriate roles for which they are trained and supervised. Since these floating paraprofessionals must be capable of several roles and transitions, it is recommended that they be the most highly skilled paraprofessionals in the school. Schools could decide to reallocate the three floating paraprofessionals to add another professional to their MTSS.

Since real schools are rarely as neatly distributed as shown on Figure 3, schools or grade-level teams could decide to distribute their special educator and/or paraprofessional personnel resources unevenly to address naturally occurring population bubbles, where the extent of support needs within a particular grade or classroom are more intensive, or in other ways that better suit their local context. Additionally, the examples of potential MTSS supports depicted at the bottom of Figures 2 and 3 (e.g., low-incidence supports, educational support team) may be school-based or could potentially be shared across schools depending on the enrollment numbers. A key point is that any and all school resources that are available to students without disabilities are also available to students with disabilities. For example, a literacy specialist would be available to students with disabilities, just as he or she would be to those without disability labels. There are times that the skills and knowledge of such personnel may more appropriately match the needs of a particular student than the skills and knowledge of the special educator assigned to the team. In such cases, it may be a general educator (e.g., classroom teacher, literacy specialist) who is building the capacity of a special educator. This highlights the notion that building capacity within the grade-

level teams and their connections to personnel within the MTSS should be considered reciprocal.

Floating paraprofessionals and the MTSS in the exemplar model are, in part, designed to ensure that special education teachers can be present predictably and consistently in the classrooms where they are assigned. In current, more reactive, approaches, they frequently are pulled unpredictably from their regularly assigned teaching duties for a variety of reasons (e.g., student behavioral crises, to cover for absent paraprofessionals, to conduct evaluations pertaining to eligibility for special education). In the exemplar model, they follow a schedule of duties more like classroom teachers in terms of their predictable presence in the classroom.

Conceptual and Programmatic Shifts

The three-class exemplar model presented in this article represents at least nine conceptual and programmatic shifts designed to facilitate improved service delivery meant to improve educational outcomes. First, the model is designed to replace current reactive and, at times, unpredictable service delivery dominated by adding-on services (e.g., paraprofessionals) or segregating students, with proactive and highly predictable service delivery rooted in total enrollment demographics and bolstered by a MTSS designed to address the educational needs of the full range of student diversity presented in a school community. Second, contemporary leadership envisions increasingly unified systems where the functions of general and special education are more integrated (Burrello et al., 2013), replacing current leadership approaches where special and general systems are substantially separate.

In the exemplar model, the roles of teachers, special educators, and paraprofessionals are all changed to varying extents. Third, instead of functioning primarily as case managers who oversee paraprofessionals, special educators are key classroom-based team members who codirect and supervise the work of a smaller set of classroom-based paraprofessionals collaboratively with their general education teacher teammates. Fourth, the model shifts schools away from a predominantly pull-out approach to specialized instruction toward predominantly in-class supports. Fifth, instead of thinly spreading special educator availability across many classrooms and

multiple grades, the number and grade range of classrooms supported by a special educator is reduced. Sixth, a corollary of these shifts is a move away from isolated student support by special educators for relatively short periods of time (e.g., three times a week for 30 minutes), toward building capacity to implement specially and/or universally designed instruction so that the benefits can be embedded throughout the school day by teachers and other team members.

Seventh, combined, these changes mean a shift toward a greater percentage of instruction coming from highly qualified teachers and special educators, with proportionally less coming from paraprofessionals. This represents a foundational equity issue by ensuring that students with disabilities have at least the same level of access to instruction from highly qualified teachers and special educators as is available to students without disabilities. Eighth, this is further supported by a shift away from a one-to-one assignment of paraprofessionals to individual students toward unified (general and special education) assignment of paraprofessionals to grade-level teams. Ninth, in the exemplar model classroom, all three types of core personnel (i.e., teachers, special educators, paraprofessionals) are available to support any student, regardless of student label or characteristics. By doing so, high expectations are encouraged and students with disabilities get more access to the substantial curricular and instructional skills of general education teachers. In addition to supporting students with disabilities, special educators can provide additional supports to students at risk of school failure and potentially prevent their entry into the special education system. One of the hallmarks of the exemplar model is that engaging in such preventative efforts would not adversely impact the availability of special education services in the school. Assuming that schools adhere to the underlying assumptions outlined earlier in this article, special educator and/or paraprofessional staffing would not be added or reduced based on labeling more or fewer students as disabled, thus allowing for predictable educational and financial planning.

Conclusions and Implications for Practice and Future Research

As stated at the outset, the three-class exemplar model presented in this article is not offered as *the*

model to be replicated exactly as described, but rather as a starting point to encourage the development of a variety of proactively developed models that suit local needs and contexts. For example, we have explored a variation (see Figure 4) where the core team staffing consists of four general education teachers, one special educator, and two paraprofessionals. In the four-class variation, special educator school density would increase to 1:80, which could be appropriate in some schools, particularly those with well-established systems of support. Although conclusive data are not currently available, we are hesitant to encourage the development of models that spread core special educators beyond the four-class variation based on earlier research in both special

and general education (Giangreco, Suter, & Hurley, 2013; Ouchi, 2009).

Since the exemplar model presented in this article is offered for consideration primarily in elementary schools, future models will need to conceptualize inclusive special education service delivery in secondary schools. This poses unique challenges given the current structures and practices of many high schools (e.g., students encounter several teachers specializing in specific curricular content). A significant question remains unanswered regarding how to best allocate special education personnel resources in high schools since pros and cons exist in many common configurations. To what extent should special education personnel cross grades, subjects, and intensity of student support needs? Some of what

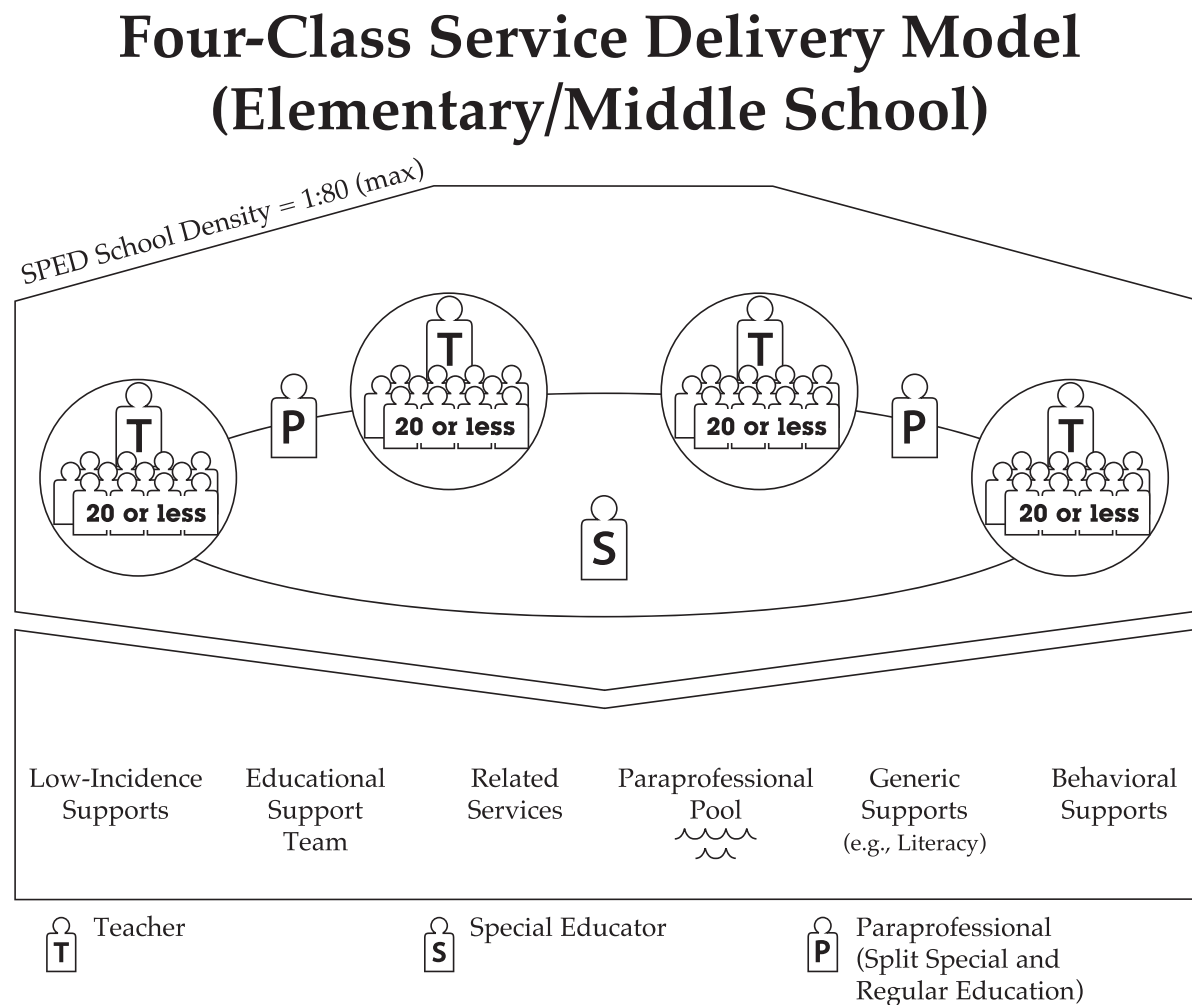


Figure 4. Four-class model.

can be learned at elementary and middle schools can hopefully be generalized in high schools, yet high schools still present unique issues requiring reconceptualization in the secondary context. Adjustments will also need to be pursued in schools that are not based on serving students in a particular geographic area (e.g., neighborhood, town) but are, for example, magnet or charter schools. In these cases, issues such as retaining natural proportions of students with and without disabilities (or other nonstandard needs) will be important so that a school can avoid becoming the “inclusion school” with a disproportionately high percentage of students with disabilities and/or other special needs. Mixed-methods and qualitative case research on various types of schools (e.g., grade levels, student/community demographics) can provide insights into the process, barriers, and impact of shifts in service delivery.

As an intermediate step, researchers are encouraged to include many of the service delivery variables listed in this article in future intervention studies at all grade levels. For example, in describing relevant setting characteristics, researchers could include the 13 key variables described earlier (e.g., special educator school density, special services concentration, special educator caseload size) or other relevant service delivery variables (e.g., caseload description by intensity of student support needs). These and potentially other demographic and personnel utilization data (Giangreco et al., 2013; Suter & Giangreco, 2009) would allow consumers to make more informed determinations about the potential replicability of proposed interventions and judge how closely such variables align with the practices being pursued in locally developing inclusive service delivery models. For example, does the intervention rely primarily on pull-out instruction or is it amenable to being embedded in classroom instruction that could build teacher capacity? As schools consider various evidence-based or promising practices, they may want to heed the advice of Guskey (1990), who reminded us that when schools are considering multiple initiatives, as virtually all are, they would be wise to ensure that innovations are not inadvertently working at cross purposes. For example, one intervention may have evidence of effectiveness in terms of academic achievement, but simultaneously distance students from the benefits of the general education classroom (e.g., teachers, peers) and do little to build capacity within the classroom. Rather,

schools are encouraged to deliberately select and integrate innovations that are compatible with established underlying assumptions, within an overarching framework and service delivery plan; are compatible with each other; and preferably operate synergistically.

A vital, albeit more challenging, corollary is for federal, state, and local funding systems to align with and support educational innovations and flexibility while maintaining accountability. An all-too-often heard refrain in schools is that they would like to pursue an innovation, but feel constrained by financial rules or regulations. In some cases, the financial tail is wagging the programmatic dog, rather than the education community envisioning desirable educational approaches and then developing financial practices that support or incentivize desired practices and innovation. Any adjustments to financial practices should encourage the flexibility that allows schools to keep pace with an ever-changing educational landscape and be nimble enough to pursue innovative approaches, so long as they maintain appropriate educational integrity and accountability. Similarly, special education licensure standards in some states are still built on disability categories or intensity levels that were developed decades ago to align with earlier models of special education service delivery based on relatively homogeneous student grouping in predominantly special education classes. In states where such special educator licensure remnants still exist, steps to align them with more contemporary practices are essential. At the individual student level, the specific language of how special education services are described in the IEP needs to evolve in ways that align with more inclusive service delivery options while still ensuring that students' needs are met. This will require collaboration with students' families and potentially federal and state guidance.

As models of service delivery evolve to become increasingly inclusive and address an ever-widening scope of student diversity, so too must college and university personnel preparation programs keep pace for teachers, special educators, and administrators. Teachers must be prepared to play key roles in educating students with a wide range of learning characteristics and challenges as part of teams within multi-tiered systems of support. Foundational to the use of strategies (e.g., differentiated instruction, universal design for learning) is an expectation of ownership for

educating all students. No longer can we simply prepare special educators to implement evidence-based interventions, potentially in isolated, pull-out settings, and homogeneous groupings. Rather, they must be prepared to work collaboratively with teachers, paraprofessionals, and related services providers within the context of general education classes and curriculum. In part, this means shifting away from an exclusive focus on supporting targeted students toward also supporting the teacher and classroom community within which those targeted students are learning. Similarly, school administrators (e.g., principals, superintendents) will require changes in their preparation to ensure that ongoing school improvement efforts account for all students from a unified perspective, rather than the historical silos of general and special education that remain all too common today.

While there remains a substantial and primary onus on education professionals to take lead roles in improving inclusion-oriented practices, there are also important roles for students with disabilities, their parents, and other advocates that can facilitate advancement. By becoming aware of contemporary, evidence-based practices that are compatible with inclusive education (Agran, Brown, Hughes, Quirk, & Ryndak, 2014; Burrello et al., 2013; Jorgensen et al., 2009), advocacy can shift away from the types of requests that today may be common, but ultimately may impede students' opportunities and progress. For example, given what is known about the inadvertent detrimental effects of assigning a one-to-one paraprofessional to an individual student (Giangreco, 2009; Giangreco, Yuan, McKenzie, Cameron, & Fialka, 2005), advocacy may be shifted away from such requests toward some combination of alternatives that build classroom-based capacity and natural supports (Giangreco, Halvorsen, Doyle, & Broer, 2004; Giangreco et al., 2011).

Similarly, despite documented limitations of isolated approaches to the delivery of related services such as those offered by occupational therapists, physical therapists, and speech-language pathologists (Giangreco, 1995; Giangreco, Edelman, & Dennis, 1991), many families, advocates, and service providers continue to pursue a "more is better" approach (Giangreco, 2001) when making decisions about related services, that while benevolently intended, may be misguided because it confuses the quantity of services with their value. Too often such approaches are neither education-

ally necessary nor relevant (Giangreco, 2001); result in less time in the classroom and, therefore, fewer instructional opportunities in the general education curriculum with a highly qualified teacher; and are disruptive to a student's opportunities to be an integral member of the classroom community. Such approaches can be replaced by team decision making about related services and integrated therapy models (Giangreco, 1996; Giangreco, Edelman, Luiselli, & MacFarland, 1996; 1998) designed to ensure that related services are both educationally relevant and necessary.

In both examples presented here, pertaining to potential changes in paraprofessional and related services support, we are not suggesting that such services are unnecessary or should necessarily be reduced; rather, we are encouraging exploration of ways such supports can be offered differently, in ways that are compatible with more fully inclusive educational opportunities. If done well, such shifts are designed to improve the consistency, integrity, and quality of supports. These and other potential shifts in practice can sometimes feel risky, which is why such decisions should be: (a) made collaboratively by the educational team which includes the family, (b) rooted in a set of shared values that the team refines over time, and (c) subject to ongoing data collection to evaluate whether the team's action have been effective. Such effectiveness goes beyond whether a student learned something new to include whether or not this learning or supports have had a positive impact on valued life outcomes (e.g., health, relationships, self-determination, inclusive participation in and out of school; Giangreco, Cloninger, & Iverson, 2011).

By presenting an exemplar of inclusive special education service delivery, we aim to highlight the need for the development of logical, conceptually, and theoretically grounded models to replace decades of add-on approaches that have been deployed in the absence of unified models. To date, only a small amount of implementation data exist regarding the impact of selected elements of the exemplar model (e.g., Giangreco, Smith, & Pinckney, 2006; Giangreco et al., 2011); to the best of our knowledge, the literature has not reported on schools that have implemented the full gamut of variables described herein. Therefore, comprehensive models of inclusive special education service delivery remain partially implemented and largely aspirational. Future research to explore the impact of unified models and their key

elements will require identifying school leaders with the vision, skills, organizational acumen, and political will to implement and evaluate locally determined models of inclusive service delivery. By elevating the urgency with which we pursue inclusive special education service delivery, it sets the stage for school personnel to implement evidence-based and promising instructional and social/behavioral interventions in more efficient and impactful ways. Hopefully, attention to these service delivery issues will help more schools shift away from reactive and precarious approaches to proactive and purposeful models.

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