# Numbers that Count! Your Numbers, What they Might Mean, and What Your School Can do About it

School Name:	JFK Elementary School	Grades Reported on:	K	to 5
Data Collection Date:	Oct 4, 2021	Total School Population:	359	students
Debrief Date:	Nov 10, 2021	Number (%) of Minority Students:	212	59.1%
Data Collected & Analyzed by:	Michael F. Giangreco & Jesse C. Suter (CDCI / UVM)	Number (%) Students on Free/ Reduced Lunch:	207	57.7%
School Setting:	Urban	Number (%) of Students English		· ·
*Number of Special Educators Reported on:	8 *Note: Only Special Educators with	Language Learners (ELL):	115	32.0%
Number of Students w/1:1 Supports Reported on:	0.40 FTE or higher were included.	Number (%) of Students From Other Schools in District:	2	0.6%

*Aim of the Activity:* To collect data about special education service delivery that can help inform school improvement. *Steps Involved:* 

- 1. Collect data using the *School Demographic Questionnaire* from a school administrator.
- 2. Collect data using the *Special Educator Questionnaire* from all special educators in the school.
- 3. Collect data using the *Student Questionnaire* from those special educators who have students with full-time, one-to-one, paraprofessional supports in general education classes (one for each such student).
- 4. Summarize data and insert into appropriate spaces provided below.
- 5. Convene a team to review and consider the level of concern (see key below) corresponding to each piece of data.
- 6. Consider potential actions your school can take to improve service delivery to students with and without disabilities.

## Numbers that Count! Data Grid

\*Generic information, not specific to your setting. \*\*Key: N = None L = Low M = Moderate H = High

#	Your	School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
1a			rage Cla			Small class size (e.g., 1:15), especially in the		•	Reduce class size
		(Ger	ıeral Edu	cation)		lower grades is positively correlated with student achievement, participation, and		•	Co-teaching (general and
			M = 1	17		improved behavior. Vermont's School Quality			special
						Standards suggest that classes K-3, should			educators)
						average fewer than 20 students, and in grades		•	Distribute
						4-8 average fewer than 25. At the high school			students with
						levels total rolls should not exceed 100 in			disabilities to
1b	Ave	rage Gra	ade Ran	ge Cove	red by	English/Language Arts or average above 150 in other subject areas (both total would be			ensure natural
	11.0	_	cial Edu	_	200129	divided by the number of class sections to			proportions Reduce the range
		БРС	- Lar			determine average class size).			of grades and/or
	n	M	SD	Low	High	Regardless of class size, if the percentage of			subjects for
	8	3.0	2.1	1	6	students with disabilities substantially exceeds			which special
	الت	0.0			Ů	the "natural proportion" (the percent of			educators are
						students with disabilities in the school), various			responsible.
						problems may arise (e.g., difficulty meeting			
						instructional needs, behavior management,			
						planning time).			
						When special educators are responsible for			
						students across multiple grades this increases			
						the number of general education teachers they			
						need to collaborate with and creates a wider			
						range of curriculum for which they must be			
						knowledgeable.			

Numbers that Count! JFK Elementary School Page 2

#	Your School's Num	bers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
2	Number (%) of State  Total At School Off Campus  Students w / IEPs on Alternate Assessment	95 92 3	1EPs  % 26.5% 96.8% 3.2%	In Vermont, students with disabilities on IEPs was approximately 15% and 14% nationwide (2019-2020). Since these are averages, the actual percentages vary from school to school and there may be reasons why an individual school's percentage of students with disabilities on IEPs varies from the averages. In other cases, particularly high numbers of students with disabilities on IEPs may signal systemic problems such as over-identification of students, problems with referral and/or eligibility practices and procedures, or problems with schoolwide programs and	14-L-141-11	•	Scrutinize special education eligibility procedures Improve supports schoolwide and increase capacity of general education to reduce reliance on special education
	*1.1% of total stud (IDEA allows up to 1	% of popi	ılation.)	services designed to meet student needs without necessitating referral to special education.			
3	Number (%) of Stud  Total  At School  Off-Campus	n 7 7 0	04 Plans    %     1.9%     100.0%     0.0%	In Vermont schools, the percentage of students with disabilities on 504 Plans is approximately 5.5%, and 2.7% nationwide (2017-2018). Since these are averages, the actual percentages vary from school to school and there may be reasons why an individual school's percentage of students with disabilities on 504 plans varies from the averages. In other cases, particularly high or low numbers of students with disabilities on 504 may signal under or overutilization of this option, especially when considered in relationship to the number of students on IEPs and those considered "at risk" who are being served on Educational Support Team (EST) plans		•	Scrutinize 504 eligibility procedures

	Your School's Nu	mbers that	t Count		Level of Concern** N-L-M-H		Potential Actions*
4	Number (%) of St Receiving Supp			In Vermont schools, the percentage of students (without disabilities) who are on Educational Support Team (EST) plans is over 6% (2020).		•	Scrutinize EST / "at risk" supports and
		n	%	There are no comparable national data. Since			services
	Total	9	2.5%	these are averages, the actual percentages vary from school to school and there may be reasons		•	Improve supports
	At School	9	100.0%	why an individual school's % of students			schoolwide in an
	Off-Campus	0	0.0%	without disabilities on EST plans varies from the averages (e.g., poverty). In other cases,			effort to reduce the number of
				particularly high or low numbers of students without disabilities on EST plans may signal under or over-utilization of this option, especially when considered in relationship to the number of students on IEPs and 504 plans.			students "at risk"
5	Number (%) of Disabilities (on IEI Educational P General I	Ps) whose lacement i	Primary	In Vermont schools, the percentage of students with disabilities on IEPs who have their primary placement (at least 80% of the time) in general education classes with supports is approximately 79% (2020), down from a		•	Scrutinize initial and annual placement procedures to ensure that each
		п	%	historic high of 88% (1992); State Performance			year each student
	In general ed 80% or more	85	89.5%	Plan target was 79%, and approximately 65% nationwide. The percentages vary quite substantially based on disability category, with			is considered for regular class placement with
	In general ed less than 80% 10 10.5%		10.5%	students who have high-incidence disabilities (e.g., speech/language impairments, learning disabilities) being included at substantially			supplemental supports and aids.
				higher rates than those with lower-incidence disabilities (e.g., intellectual disabilities, multiple disabilities, emotional disturbance).  Any time students are not afforded supported access to the general education classroom and		•	Explore teacher attitudes and conceptualization of regular class

#	Your School's Numbers that Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
		curriculum, it warrants close scrutiny to ensure that students' educational rights are protected and they have full access to quality education. Placement of students with disabilities in more restrictive settings (e.g., special class, special school) raises potential questions about: (a) the annual procedures used to determine placement in the LRE (least restrictive environment), (b) attitudes and expectations about including the full range of students with disabilities, (c) potential misapplication of IDEA LRE provisions, or (d) knowledge and skills about how to successfully include the full range of students with disabilities in general education settings. Students need not function at the same level as their classmates for the regular class to be the LRE.		placement to ensure that all faculty understand how students with a full range of disabilities and levels of severity can be meaningfully included in regular class (even when they are pursuing different learning outcomes.
6	Number of Students with Disabilities (on IEPs) in non-residential placements outside of your school $n = 3 \qquad \% = 3.2\%$	Any time students with disabilities are placed outside of your school district, it warrants close scrutiny to ensure appropriateness for the student. Further it raises potential questions about whether there is a sufficient continuum of supports within the district.		Put in place (or strengthen) supports to avoid out of district placements.
7	Number of Students with Disabilities (on IEPs) in residential placements $n = 0 \qquad \qquad \% = 0.0\%$	Since residential placements are among the most restrictive placements, they always require close scrutiny to ensure appropriateness for the student. Further it raises potential questions about whether there is a sufficient continuum of supports within the district.		Explore supports that could be put in place or strengthened to avoid residential placements.

#	Your School's Numbers that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
8a	Information supplied by the scanner of Special Educators  Number of Special Educators  Special Educator (SPED) FTE  SPED FTE for on-campus students  SPED FTE for off-campus students		The number of special educators in the school is one of the most important numbers to consider when supporting students on IEPs, not just the number of actual people, but the amount of their FTE dedicated toward students on IEPs (since some people may be part-time or have split assignments, such with Title I or 504). Although examining the ratio of special educator FTE to students on IEPs is important, the simple ratio can be misleading because it doesn't address the range of caseload sizes and doesn't account for the varying percentage of	N-L-M-H	•	Compare amount of special education time on IEPs with amount of assigned special educator time (account for direct, indirect, and consultative time). Allocate special
	Number of Speech Language Pathologists (SLP) serving as Special Educators SLP serving as SPED FTE Combined SPED FTE	0 0.00 9.23	students with disabilities in a school. Therefore, when tracking a school or district's special education service delivery from year to year, it can be helpful to compare the amount of special education FTE to the total school population; this ratio will account for changes in school population growth or decline and changes in the percentage of students identified			education resources based on ratio of combined special educator FTE to total school population (8c) rather than only
8b 8c	Combined SPED FTE at school  Ratio of Combined Special Ed FTE to Students on IEPs (at school)  1: 10.2  Ratio of Combined Special Ed FTE to the Total School Popul (at school) 1: 39.6	chool) ucator	changes in the percentage of students identified as having a disability. One study (Suter & Giangreco, 2009) considered this ratio "special educator school density." Subjective reports indicated "the lower the ratio the more these schools could absorb the fluctuations that are a routine aspect of public schooling (e.g., the enrollment of a new student with intensive special needs)." Schools with ratios from 1:50 to 1:79 reported they had the resources they needed; from 1:80 to 1:100 responses were mixed; and schools higher than		•	number of students on IEPs. Reduce special educator caseload size.

	You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
9a	Ave	rage Spe	, , ,	ıcator Ca		1:100 were more consistently challenged. When special educator caseloads are high, it is one of the key contributors to special educators leaving the field, experiencing "burnout", so simply diminishing their ability to do their		•	Consider adding special educators through resource reallocation (e.g., trading
OI-	8	9.8	SD 4.1	Low 5	High 16	work. A recent study (Suter, Giangreco, & Bruhl, 2019) identified a relationship between special educator school density and absence rates of special educators. Students' education			paraprofessional positions for special educator positions).
9b	P n	roviding  M	seload B <i>Primary</i> SD			is disrupted by key personnel absences. Another study (Giangreco, Suter, Hurley, 2013) found that both special educator school density		•	Reduce the range of grades and/or subjects for
	8	6.1 Shar	5.1 ing IEP	0 Services	14	and a special educator's caseload were significantly related to their ratings of work responsibilities being conducive to providing effective special education to students on IEPs		•	which special educators are responsible. Explore reducing
	8 Pro	1.9 oviding F	2.9 Few Direc	0 ct IEP Se	7 rvices	(see item 24).  Although there is limited data on special educator caseloads, and no Vermont or federal			variability in special educator caseload size.
9c	Stu	1.8 dents wi Not on	3.1 ith IEPs Official			regulations or guidelines, it is important to consider whether the special educator can reasonably and sufficiently address the specialized needs of the students on the caseload as reflected in the IEP. In addition to		•	Explore regular education supports for students on 504 or EST plans.
	n 8	M 0.3	SD 0.5	Low 0	High 1	the number of students, it is important to consider the students' characteristics, whether the special educator is the primary provider of			•
9d		ntage of	Out-of-	Class Ins	struction	services or not, the range of grade levels and the number of teachers with whom a special educator works.			
Numbers	n 7	54.3%	35.1%	10%	High 100%	When the number of students with special educational needs on one caseload exceeds 10  IFK Elementary School			Page

Numbers that Count! JFK Elementary School Page 7

							Level of Concern** N-L-M-H	Potential Actions*
10a			ecial Edu Students			has suggested an inverse relationship between caseload size and instructional time.  Special educators with higher caseloads tend to provide a smaller amount of instructional time		See information on pages 6-7
	n	М	SD	Low	High	to their students; as the caseload size decreases the amount of instructional typically increases.		
	8	0.0	0.0	0	0	When the special educator has a higher		
10b			Caseload Primary			caseload students with disabilities tend to get less instruction or receive their instruction from less qualified personnel (e.g.,		
						paraprofessionals). This is inconsistent with both the IDEA and ESSA efforts to ensure that		
	8	0.0	0.0	0	0	all students have ongoing access to instruction		
		Shar	ing 504 S	Services		from highly qualified teachers. It can also put schools at risk for due process complaints or		
	8	0.0	0.0	0	0	legal actions because it may violate the LRE		
	Pro	oviding I	ew Direc	ct 504 Se	rvices	provisions in IDEA.  More instruction in regular class allows		
	8	0.0	0.0	0	0	students to benefit from co-teaching between		
10c	St		on 504 St ot on Cas		d but	special educators and general educators, receive peer supports, and be more a part of the general classroom community.		
	п	М	SD	Low	High			
	8	0.1	0.4	0	1			

							Level of Concern** N-L-M-H	Potential Actions*
11a				ıcator Ca s on EST		See information on pages 6-7		See information on pages 6-7
	n 8	<i>M</i> 0.0	<i>SD</i> 0.0	Low 0	High 0			
11b	ES	ST Plan	Caseload	d Breako EST Ser	lown			
	n 8	M 0.0	SD 0.0	Low 0	High 0			
	0		ing EST		0			
	8	0.0	0.0	0	0			
	P	rovide Fe	w Direct	EST Ser	vices			
	8	0.0	0.0	0	0			
11c	St		on EST S ot on Cas	upporte seload	d but			
	n	M	SD	Low	High			
	8	0.4	1.1	0	3			

							Level of Concern** N-L-M-H	Potential Actions*
12a	Perce	ntage of	Time Wo	_	s Special	Item 12 provides a few alternatives to examining special educator caseloads. The first (12b) is the <i>full equivalent caseload</i> which is the		See information on pages 6-7
	n	M	SD	Low	High	number of students on IEPs special educators would have if 100% of their time were directed		
12b	8 Eu11-	100.0%  Equivale	0.0%	100%	100%	toward students on IEPs.		
120	1	IEPs (Ca				The second (12c) is the average special educator caseload including students with		
	n	M	SD	Low	High	IEPs, 504 plans, and EST plans.		
	8	9.8	4.1	5	16	The third (12e) is the average number of students supported by special educators		
12c	Act	ual Case	load (IE	P + 504	+ EST)	(including both students on their caseloads plus).		
	п	M	SD	Low	High			
	8	9.8	4.1	5	16			
12d	Stud	ents Sup (IEI	ported N P + 504 -		Caseload			
	n	М	SD	Low	High			
	8	0.6	1.4	0	4			
12e		on &	udents S & off Ca P + 504 -		ed			
	n	М	SD	Low	High			
	8	10.4	4.5	5	17			

							Level of Concern** N-L-M-H		Potential Actions*
13a	Suj (inform on th 8	pervised nation property of the paraprox M 3.6 tio of Sp I Educate	SD 2.4 Decial Ed	ecial Edu y special ls they si Low 1 lucator F	ucator educators upervise) High 8 TE to ional FTE	The limited existing data suggests that when the ratio of special educators to special education paraprofessionals exceeds 1:2, the service delivery model may be unbalanced. In part the data suggest that when special educators have more than one or two paraprofessionals they have insufficient time to train/supervise/direct their activities. In a recent study where on average each special educator supervised 4 paraprofessionals, they only spent about 2% of their time per paraprofessional. The maximum number of paraprofessionals supervised by a single special educator was 14 leaving insufficient time for supervision or instruction. This exacerbates the problems mentioned earlier, leaving too many paraprofessionals to fend for themselves. Based on federally reported data (2019 for students ages 6-21), Vermont is one of 6 states with a special educator FTE to special education paraprofessional FTE ratio higher than 1:2 (VT is 1: 2.4). In contrast, the US ratio was 1: 1.2, and 20 states have more special educator FTE than special education paraprofessional FTE. Though the averages can be illuminating, the range is critically	N-L-M-H	•	Increase the number of special educators or reduce the number of parapros. Explore classroom teachers assuming primary or shared roles for supervising parapros. Explore redistribution of paraprofessionals (and students if necessary) among special educators to more evenly distribute paraprofessional supervision.
						important because the distribution of paraprofessionals per special educator can vary substantially.			

	Your School's Number	s that (	Count		Level of Concern** N-L-M-H		Potential Actions*
14a	Information supplied b  Total Number (in  Paraprofessionals A	FTE) o	f	At present, there is no research on desirable numbers of general and special education paraprofessionals in schools. Data indicate that there has been a substantial increase in the numbers of paraprofessionals with ongoing		•	Explore service delivery to ensure that students with disabilities receive their
	Number of paraprofessi	ionals	35.0	growth. In 2019, there were 440,215 (FTE)			primary
	Paraprofessional FTE		31.5	special education paraprofessionals K-12 nationally, and their use has substantially			instruction from teachers and
	FTE assigned to generated education	ral	7.0	increased. For example, in Vermont in 1990 there were fewer than 1,200 (FTE) special education		•	special educators. Explore opportunities to
	FTE assigned to special education  14b Ratio (in FTE) of Special Educa Paraprofessionals to Students on (at school)			paraprofessionals (K-12). By 2019, there were more than 2,800 (FTE). When adjusted for			have some paraprofessionals based funded by
14b				population increases and changes in child count, on average in 1990 there was approximately one special education paraprofessional for every nine students on an IEP; by 2019 there was an average of one special education paraprofessional for every		•	general education. If the number of paraprofessionals or ratio of special education
	(iii seinseri)	Ratio	%Ss	four and one-half students on IEPs. Small-scale studies suggest that Vermont's use of special			paraprofessionals to students on
	All students with IEPs		100.0%	education paraprofessionals may be among the			IEPs is identified as a concern,
	Students with IEPs with 1:1 support		19.6%	highest in the nation. At the same time, data suggests that paraprofessionals' roles have become increasingly instructional, with some			consider using the schoolwide planning process,
	Available to students with IEPs not receiving 1:1 support 1:11.4 80.4		80.4%	students with disabilities getting more of their education from under qualified personnel.  Larger special educator caseloads typically provide insufficient time to plan for and direct			Guidelines for Selecting Alternatives to Overreliance on
				the work of paraprofessionals, too often leaving paraprofessionals to make numerous curricular and instructional decisions.			Paraprofessionals.

	Your School's Numbers	that (	Count		Level of Concern** N-L-M-H		Potential Actions*
15a	Subset of Special Ed Paraprofessional FTE ( Information supplied	listed ir	14a)	Over the past two decades there has been a substantial increase in the number of special education paraprofessionals assigned, one-to-one (full-time) to students with disabilities.  Although this type and level of support is			Re-assign full- time, one-to-one paraprofessionals as classroom paraprofessionals
15b	Working 1:1 with students with IEPs  Working 1:1 with students in general education 80% or more  Working 1:1 with students in general education less than 80%  Amount of Time Student with 1:1 Paraprofession Spend in General Education Spend in General Education supplied by Spending S	18.0 17.0 1.0 nts with	73.5% 94.4% 5.6% h IEPs port	undoubtedly offered with benevolent intentions, a series of studies have documented that this model of service delivery is fraught with numerous unintended detrimental effects (e.g., isolation from classroom activities and peers, stigmatization, provocation of behavior problems). Use of 1:1 paraprofessional support is one of the most restrictive supports than can be offered to a student and therefore should be closely scrutinized. Even in cases where students have extensive support needs, rarely do they need 1:1 paraprofessional support 100% of the time. The literature suggests that if the paraprofessionals are being used in place of instruction from teachers and special educators it is problematic. Use of 1:1 paraprofessionals has become a convenient, though often illadvised, first (and sometimes lone) option for supporting students with disabilities in general education classrooms. In addition, recent legal proceedings suggest that in some cases the use of 1:1 paraprofessional services without a plan for increasing student independence may be considered a violation of FAPE.		•	or consider a split funding FTE.  If student needs are low frequency or intermittent, consider using a paraprofessional pool (e.g., where a paraprofessional moves between situations on a prescheduled or as needed basis). Explore options for more instruction from teachers and special educators. Explore peer supports.

Reported) Ave. % of Time Spent on:  Special Education Paperwork  n M SD Low High 8 12.6 6.0 2 20  16b Collaboration with Others 8 14.0 4.2 10 20  16c Behavior Support 8 20.0 13.7 10 51  16d Instructional Time with Students 8 25.6 14.4 5 40  16e Planning 8 10.6 4.7 5 20  16f Working with Paraprofessionals  on the percentage of time spent on these activities regardless of how many hours they devote to work. These percentages include any time spent working outside of the regular school day. Therefore, these percentages do not necessarily or exclusively reflect time spent during the school day and when students are present. Other forms of data collection are more appropriate for capturing what happens during the school day only (e.g., time study).  There are no agreed upon parameters for how special educators should spend their time, although in general more time in instruction is considered a strong proxy indicator of achievement. In addition, many special educators report that they get their motivation and reinforcement from working directly with students and seeing them learn - therefore the percentage of time spent on these activities regardless of how many hours they devote to work. These percentages include any time spent working outside of the regular school day. Therefore, these percentages do not necessarily or exclusively reflect time spent during the school day and when students are present. Other forms of data collection are more appropriate for capturing what happens during the school day only (e.g., time study).	Potential Actions*		Level of Concern** N-L-M-H	What They Might Mean If They are Too High or Low*	Count	ers that	's Numb	r School	You	#
n       M       SD       Low       High         8       12.6       6.0       2       20         Collaboration with Others         8       14.0       4.2       10       20         Collaboration with Others         8       14.0       4.2       10       20         Behavior Support         8       20.0       13.7       10       51         Instructional Time with Students         8       25.6       14.4       5       40         There are no agreed upon parameters for how special educators should spend their time, although in general more time in instruction is considered a strong proxy indicator of achievement. In addition, many special educators report that they get their motivation and reinforcement from working directly with students and seeing them learn therefore the percentage of time spent in instruction is important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	Establish desired time use for special educators to take best	•		on the percentage of time spent on these activities regardless of how many hours they devote to work.	ent on:	Time Sp	ve. % of	orted) Av	Repo	16a
time spent during the school day and when students are present. Other forms of data collection are more appropriate for capturing what happens during the school day only (e.g., time study).  16c Behavior Support  8 20.0 13.7 10 51  16d Instructional Time with Students  8 25.6 14.4 5 40  16e Planning  8 10.6 4.7 5 20  16f Working with Paraprofessionals  time spent during the school day and when students are present. Other forms of data collection are more appropriate for capturing what happens during the school day only (e.g., time study).  There are no agreed upon parameters for how special educators should spend their time, although in general more time in instruction is considered a strong proxy indicator of achievement. In addition, many special educators report that they get their motivation and reinforcement from working directly with students and seeing them learn therefore the percentage of time spent in instruction is important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	advantage of			outside of the regular school day. Therefore, these	High	Low	SD	M	n	
Collaboration with Others   8   14.0   4.2   10   20   20   20	their skills and knowledge; then				20	2	6.0	12.6	8	
16c  Behavior Support  8 20.0 13.7 10 51  There are no agreed upon parameters for how special educators should spend their time, although in general more time in instruction is considered a strong proxy indicator of achievement. In addition, many special educators report that they get their motivation and reinforcement from working directly with students and seeing them learn therefore the percentage of time spent in instruction is important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	explore strategies				 'S	ith Other	ration w	Collabo		16b
16c Behavior Support  8 20.0 13.7 10 51  16d Instructional Time with Students  8 25.6 14.4 5 40  16e Planning  8 10.6 4.7 5 20  16f Working with Paraprofessionals  There are no agreed upon parameters for how special educators should spend their time, although in general more time in instruction is considered a strong proxy indicator of achievement. In addition, many special educators report that they get their motivation and reinforcement from working directly with students and seeing them learn therefore the percentage of time spent in instruction is important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	to establish			appropriate for capturing what happens during the					8	
16c Behavior Support  8 20.0 13.7 10 51  16d Instructional Time with Students  8 25.6 14.4 5 40  16e Planning  8 10.6 4.7 5 20  16f Working with Paraprofessionals  There are no agreed upon parameters for how special educators should spend their time, although in general more time in instruction is considered a strong proxy indicator of achievement. In addition, many special educators report that they get their motivation and reinforcement from working directly with students and seeing them learn therefore the percentage of time spent in instruction is important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	alignment between desired			school day only (e.g., time study).		<u> </u>	<u>I</u>	ļ		
special educators should spend their time, although in general more time in instruction is considered a strong proxy indicator of achievement. In addition, many special educators report that they get their motivation and reinforcement from working directly with students and seeing them learn therefore the percentage of time spent in instruction is important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	and actual time			There are no agreed upon parameters for how		ıpport	havior Su	Вен		16c
although in general more time in instruction is considered a strong proxy indicator of achievement. In addition, many special educators report that they get their motivation and reinforcement from working directly with students and seeing them learn therefore the percentage of time spent in instruction is important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	use.			special educators should spend their time,	51	10	13.7	20.0	8	
16e    8   25.6   14.4   5   40   educators report that they get their motivation and reinforcement from working directly with students and seeing them learn therefore the percentage of time spent in instruction is important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	Compare findings to data sources that	•		considered a strong proxy indicator of	dents	with Stud	ial Time i	struction	In	16d
students and seeing them learn therefore the percentage of time spent in instruction is important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	exclusively focus			educators report that they get their motivation	40	5	14.4	25.6	8	
important to consider. The real question for a school is "How do you want your special educators to be spending their time?" Do you	on special educator time			students and seeing them learn therefore the		ıg	Plannin			16e
school is "How do you want your special educators to be spending their time?" Do you	use during the school day (e.g.,				20	5	4.7	10.6	8	
want them doing paperwork and supervising	time study).			school is "How do you want your special	nals	professio	vith Para	Vorking u	V	16f
				want them doing paperwork and supervising	14	1	4.4	5.5	8	
the work of multiple paraprofessionals? Or do you want them teaching students with disabilities and co-teaching with classroom				you want them teaching students with		Families	ing with	Work		16g
8 4.5 4.4 0 14 teachers?					14	0	4.4	4.5	8	
16h Other							Other			16h
8 6.9 8.8 0 20					20	0	8.8	6.9	8	

You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*					
	al Educat	ors) Ave	%of Tim		Existing data suggests that special education paraprofessionals are expending an increasing portion of their time on instruction. Under some circumstances this may be positive,		•	Establish desired time use for special education paraprofessionals					
n	М	SD	Low	High	though much depends on whether the instruction they provide is primary or			to take best advantage of					
8	1.9	2.6	0	5	supplemental; in too many cases it is			their skills and					
	Supera	vision of	Students	:				knowledge; then explore strategies					
8	13.8	9.9	0	30	paraprofessionals is desirable also depends on			to establish					
	P	Personal (	Care:		otherwise qualified for the tasks they are being			alignment between desired					
0			i	10	asked to perform. Existing data suggests that			and actual time					
0	3.6	4.4	U	10				use.					
	Beh	ıavior Su	pport:		being under-skilled or unskilled. This becomes								
8	39.4	16.6	25	70									
Impl	U			U	school. As one study participant (paraprofessional) stated, "I don't do algebra." The breakdown of paraprofessional time use is								
8	33.1	11.9	20	50									
0 0	, 0				time. In some cases there is renewed interest in having paraprofessionals engage in non-instructional tasks that allow teachers and								
8	8.1	8.4	0	25	teaching students with disabilities these non-								
	•	Other			instructional duties and supplemental instructional roles need to be clearly								
8	0.0	0.0	0	0	established as highly valued role.								
	Parap Special  n 8 8 8 Imple 8 Engag Plann 8	Paraprofession Special Educate Cla  n M 8 1.9 Superate 8 13.8  P 8 3.8  Beh 8 39.4  Implementing Teacher 8 33.1  Engaging in September of Superate 8 8 3.1	Paraprofessional Time Special Educators) Ave Clerical Superior           n         M         SD           8         1.9         2.6           Supervision of         8         13.8         9.9           Personal Company         8         3.8         4.4           Behavior Supervised         8         39.4         16.6           Implementing Instruct Teacher or Special Supervised         8         33.1         11.9           Engaging in Self-Direct Planned or Supervised         8         8.1         8.4           Other	Paraprofessional Time Use (Respecial Educators) Ave% of Time Clerical Support:    n	n         M         SD         Low         High           8         1.9         2.6         0         5           Supervision of Students:           8         13.8         9.9         0         30           Personal Care:           8         3.8         4.4         0         10           Behavior Support:           8         39.4         16.6         25         70           Implementing Instruction Planned by a Teacher or Special Educator           8         33.1         11.9         20         50           Engaging in Self-Directed Activities, Not Planned or Supervised by Teacher/SPED           8         8.1         8.4         0         25           Other	Paraprofessional Time Use (Reported by Special Educators) Ave%of Time Spent: Clerical Support:    Name	What They Might Mean If They are Too High or Low*   Concern** N-L-M-H	What Inely Might Mean If They are Too High or Low*   Concern** N-L-M-H					

	Your School's Numbers	that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
	Number of Students will Paraprofessional Suppor IDEA Disability Ca	t by P	rimary	Virtually no state or national data exist on the disability categories of students with disabilities who are receive full-time, one-to-one paraprofessional supports. Because the		This informational item can assist in understanding
	Disability	n	%	variability and severity with each category is substantial, these data offer only a modest		items 13 and 14 regarding
	Autism	11	47.8%	amount of information to consider (more detailed and relevant data are found in item		paraprofessional utilization and
	Deaf-Blindness	0	0.0%	20). In general, we suggest that you should especially scrutinize situations where the		can highlight if
	Developmental Delay	2	8.7%	disability category is most closely associated		any particular categories are
	Emotional Disturbance	4	17.4%	with students who have high-incidence/mild disabilities. For example, if you have students		unusually represented (e.g.
	Hearing Impairment	0	0.0%	in categories such as learning disabilities (LD) it should be explored further. It is more		high incidence disabilities).
	Intellectual Disability	3	13.0%	common (though not necessarily more appropriate) for students in categories most closely associated with low-incidence/severe		<u> </u>
	Multiple Disabilities	1	4.3%			
	Orthopedic Impairment	0	0.0%	disabilities (e.g., deaf-blindness, multiple disabilities) to receive one-to-one		
	Other Health Imp.	2	8.7%	paraprofessional supports. It should be noted that some schools have made a decision to		
	Specific Learning Dis.	0	0.0%	completely move away from the use of full- time one-to-one paraprofessionals because of		
	Speech/Language Imp.	0	0.0%	its known problems. In these cases students		
	Traumatic Brain Injury	0	0.0%	may receive such supports at specific times and for specific purposes (e.g., personal care		
	Visual Impairment	0	0.0%	supports).		
	Total	23	100.0%			

#	Your School's Numbers	s that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
19	Number of Students Paraprofessional Sup Participate in Alternate	pport V Asses	Vho sment	Please note: We recommend exploring any discrepancies between special educators' response to this item and item 2.  Virtually no state or national data exist on the number of students who receive full-time one-		•	This item can assist in understanding items 13 and 14 regarding
	Students on Alternate 2 8.7%			to-one supports who also are eligible to participate in alternate assessment. Presumably there should be a substantial correlation between those students with severe enough			paraprofessional utilization and can highlight students who are
	Students not on Alternate Assessment	21	91.3%	disabilities to warrant alternate assessment			receiving full- time, one-to-one supports, but
	Total	23	100.0%	substantial number of students who are receiving one-to-one supports are not eligible for alternate assessment it may be of concern and one way to cross-check the level of need.			who are not eligible for alternate assessment.
20a	Type and Level of Disal Those Receiving Ful Paraprofessional S		1:1	There are virtually no state or national data on the types and levels of disability among students who are receiving full-time, one-to- one paraprofessional supports. Given the		•	This informational item can assist in understanding
20a	Intellectual / Learning	n	%	inherent variability within the IDEA disability categories, having a better understanding of			items 13, 14 and 18, regarding
	None Mild	5	0.0%	the types and levels of disabilities can assist your school as it reflects on which students are			paraprofessional utilization and
	Moderate	15	65.2%	receiving full-time, one-to-one paraprofessional supports and whether any			can highlight if any particular
	Severe	3	13.0%	patterns exist that can facilitate school improvement planning. Once you ascertain the			types or levels are unusually
	Total	23	100.0%	characteristics and levels you can begin asking questions such as: (a) Do these students need paraprofessional supports all day? (b) What is			represented (e.g., mild disabilities).

#	Your School's Numbers	s that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
				the paraprofessional doing when the student is		See information on
20b	Physical / Orthopedic	n	%	with the teacher, special educator, or a related services professional? (c) Are the duties being		page 17
	None	12	52.2%	fulfilled by the paraprofessional most		
	Mild	8	34.8%	appropriate for them to deliver, or are they better provided by a peer, teacher, or special		
	Moderate	3	13.0%	educator?		
	Severe	0	0.0%			
	Total	23	100.0%			
20c	Behavioral / Emotional	n	%			
	None	1	4.3%			
	Mild	2	8.7%			
	Moderate	10	43.5%			
	Severe	10	43.5%			
	Total	23	100.0%			
20d	Vision	n	%			
	None	23	100.0%			
	Mild	0	0.0%			
	Moderate	0	0.0%			
	Severe	0	0.0%			
	Total	23	100.0%			

#	Your School's Numbers	that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
20e	Hearing Disability	n	%	See information on pages 17-18		See information on
206	None	22	95.7%			page 17
	Mild	0	0.0%			
	Moderate	1	4.3%			
	Severe	0	0.0%			
	Total	23	100.0%			
	Health Disability	n	%			
20f	None	16	69.6%			
	Mild	6	26.1%			
	Moderate	1	4.3%			
	Severe	0	0.0%			
	Total	23	100.0%			
			1 /-			

#	You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
21a	Avera	Stude Parapro	nts Rece	iving 1: Il Suppo		One of the most important aspects of successful inclusive environments is what has been referred to as "teacher engagement", namely the teacher's attitude of ownership for the education of the student with a disability in the regular classroom and the teacher's actions to be knowledgeable and involved in the design	•	Establish desired instructional time use for special educators, teachers, and paraprofessionals to take best	
21b 21c	24 Spe 24 24	M 42.1 ecial Edu 21.9 Pa 36.0	SD 26.8  cators / F 20.2  raprofess 29.1	5	High 80 ervices 90	and delivery of curriculum and instruction.  Existing data suggests that a substantial amount of primary instruction is provided paraprofessionals; there is little existing evidence that this approach is beneficial for students. A small number of studies have documented positive impact of paraprofessionals providing supplemental (not primary) instruction when they are appropriately trained and supervised in the implementation of researched-based approaches. Additionally, students with disabilities report feeling like outsiders in the classroom and less valued when they do not receive their instruction from the classroom teacher. Excessive use of paraprofessionals to provide instruction potentially establishes a double standard that would not be acceptable		•	advantage of their respective skills and knowledge; then explore strategies to establish alignment between desired and actual instructional time use. Increase instructional by teachers, special educators, and co-teaching.

#	Your School's Number	s that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
22	Number of Students W Team Members Have A Students to Have Fu Paraprofessional (as reported by Special  Team Member  General Education Administrator  Special Education Administrator  Classroom Teacher Special Educator Parent or Guardian Student with a Disability Other	Advoca ıll-Tim Suppo	ited for e 1:1 rt	There are virtually no data on this topic in the professional literature other than limited descriptions suggesting that in some cases parents advocate for one-to-one paraprofessional supports. This is often rooted in parental concerns that their child will be lost in the shuffle of the regular classroom and that their individual needs will not be met. At other times it is school personnel (e.g., teachers, principal) who require that a paraprofessional be assigned to a student in order for them to have access to the regular classroom (sometimes this is contrary to the wishes of the parent). Students themselves are rarely involved in these support service decisions, a fact that runs contrary to the current emphasis on self-determination as a best practice.	N-L-M-H	•	Share information with families and school personnel about both the pros and cons (e.g., inadvertent detrimental effects) of utilizing full-time, one-to-one paraprofessional supports. Ensure that use of full-time, one-to-one paraprofessional support is neither the first or only option considered to support students with disabilities in general education classes (e.g., use <i>Guidelines for</i>
	n reported	24	100.0%			•	Selecting Alternatives to Overreliance on Paraprofessionals). Encourage self- determination by involving students in decisions about their own supports.

#	Your School's Number	s that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
23	Primary Reasons Why S Recommended Paraprofessional S	for 1:1		There are virtually no data on this topic in the professional literature. Collecting data on the reasons why some students get assigned full-time, one-to-one paraprofessional support can assist schools in deciding: (a) whether the use		•	Consider use of paraprofessional pools or classroom-assigned
	Reason	n	%	of a paraprofessional is a good match with the			paraprofessionals
	Safety of Student	19	79.2%	reasons; and/or (b) whether the reasons prompt consideration of other ways to meet			to address low frequency needs.
	Safety of Others	13	54.2%	students' needs more effectively using less		•	Consider use of
	Behavioral, Emotional, 22 91.7% or Social Concerns (not safety issues)	restrictive approaches.			generically available school personnel (e.g., school nurses,		
	Physical, Health, or Personal Care	Physical, Health, or 10 41.7%					guidance counselors). Consider
	Communication Support	14	58.3%				matches between personnel and functions to be
	Instructional / Learning Support	22	91.7%				served (e.g., if the function is
	Other	0	0.0%				instruction, who is best suited to
	n reported	24	100.0%				provide that
							support?).

#	You	r School	l's Nu1	nbers th	at Coı	ınt				_	_	ght Mea igh or L		Level of Concern** N-L-M-H	1	Potential Actions*
24	My u	oork respo viding eff studer (Rated 1 = 5 10 =	al Educators' Agreement with:  ork responsibilities are conducive to ding effective special education to students served on IEPs.  (Rated on a scale of 1 to 10  1 = Strongly Disagree 10 = Strongly Agree)  M SD Low High 6.1 2.7 3 10			res wh the fee pro helj perce a cor	This question was asked to gauge special educators' feelings toward their work responsibilities. Each school needs to decide whether the average is of concern or not for them. Asking special educators whether they feel their work conditions are conducive to providing effective services and supports can help schools (a) assess how special educators perceive their working conditions and (b) begin a conversation to address concerns and plan for							•	Identify subset of special educators with the most challenging caseloads Reduce caseload size Reduce range of classes and/or ages served Ensure no one	
	8					sign	possible changes. One recent study found that special educator ratings on this item were significantly related to special educator school density and special educator's IEP caseload.								special educator has too many students with intensive needs Reduce the	
		Number of Special Educators  2 2 4 1				Educa	Educators' Ratings						number of paraprofessionals a special educator is expected to supervise/direct			
										•		Consider limiting responsibilities for non IEP student Meet with the				
	0 1 2 3 4		5	5 6 7 8 9 10				special educators and seek their input about what would improve their working conditions to								
	a that C			trongly Disagree			Rat	ing	-			Strongly Agree				better serve students

#### References

#### [Number following citations correspond with numbered data items]

- A.C. & M.C. v. Board of Education of the Chappaqua Central School, No. NYSD:6-CV-04238, U.S. Dist. (April 27, 2007). [15] Achilles, C.A. (1997). Small classes, big possibilities. (1997). *The School Administrator*, 54(9), 6-9, 12-13, 15. [1]
- Ashbaker, B.Y., & Morgan, J. (2004, Spring). Legal issues relating to school paraprofessionals. *A Legal Memorandum Quarterly Law Topics for School Leaders: National Association of Secondary School Principals*, 1-8. [8, 9, 10, 11, 12, 13]
- Broer, S.M., Doyle, M.B., & Giangreco, M.F. (2005). Perspectives of students with intellectual disabilities about their experiences with paraprofessional supports. *Exceptional Children*, 71(4), 415-430. [22]
- Brown, L., Farrington, K., Ziegler, M., Knight, T., & Ross, C. (1999). Fewer paraeducators and more teachers and therapists in educational programs for students with significant disabilities. *Journal of the Association for Persons with Severe Handicaps*, 24, 249-252. [8, 10, 11, 12, 14, 15]
- Causton-Theoharis, J.N., & Malmgren, K.W. (2005). Increasing peer interactions for students with severe disabilities via paraprofessional training. *Exceptional Children*, 71, 431-444. [14, 20]
- 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. [14, 17]
- Chopra, R. V., & Giangreco, M. F. (2019). Effective use of teacher assistants in inclusive classrooms. In M. Schuelka, C. Johnstone, G. Thomas, & A. Artiles (Eds.), *The SAGE Handbook on Inclusion and Diversity in Education* (pp. 193-207). Sage. http://dx.doi.org/10.4135/9781526470430.n18 [14, 15]
- Etscheidt, S. (2005). Paraprofessional services for students with disabilities: A legal analysis of issues. *Research and Practice for Persons with Severe Disabilities*, 30, 60-80. [8, 9, 10, 11, 12, 13]
- French, N.K., & Chopra, R. (1999). Parent perspectives on the roles of paraprofessionals. *Journal of the Association for Persons with Severe Handicaps*, 24, 259-272. [17]
- Giangreco, M. F. (2020). "How can a student with severe disabilities be in a fifth-grade class when he can't do fifth-grade level work?" Misapplying the least restrictive environment. *Research and Practice for Persons with Severe Disabilities*, 45(1), 23-27. https://doi.org/10.1177/1540796919892733 [5, 9]
- Giangreco, M.F. (2001). Interactions among program, placement, and services in educational planning for students with disabilities. *Mental Retardation*, 39, 341-350. [5]
- Giangreco, M. F. (2021). Maslow's hammer: Teacher assistant research and inclusive practices at a crossroads. *European Journal of Special Needs Education*, 36(2), 278-293. https://doi.org/10.1080/08856257.2021.1901377 [14, 15]
- Giangreco, M.F. (2003). Working with paraprofessionals. *Educational Leadership*, 61(2), 50-53. [8, 9, 10, 11, 12, 13, 14, 17]
- 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(1), 10-26. [8, 9, 10, 11, 12, 13, 14, 15, 16, 17]

- Giangreco, M.F., Broer, S.M., & Edelman, S.W. (2001). Teacher engagement with students with disabilities: Differences between paraprofessional service delivery models. *Journal of Association for Persons with Severe Handicaps*, 26(2), 75-86. [21]
- 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*(1), 47-64. [17]
- Giangreco, M.F., Broer, S.M., & Edelman, S.W. (1999). The tip of the iceberg: Determining whether paraprofessional support is needed for students with disabilities in general education settings. *Journal of the Association for Persons with Severe Handicaps*, 24(4), 281-291. [14, 15]
- Giangreco, M. F., Broer, S. M., & Suter, J. C. (2011). Guidelines for selecting alternatives to overreliance on paraprofessionals: Field-testing in inclusion-oriented schools. *Remedial and Special Education*, 32(1), 22-38. https://doi.org/10.1177/0741932509355951 [14, 15]
- Giangreco, M.F. & Doyle, M.B. (2002). Students with disabilities and paraprofessional supports: Benefits, balance, and bandaids. *Focus on Exceptional Children*, 34(7), 1-12. [8, 9, 10, 11, 12, 13, 14, 15, 16, 17]
- Giangreco, M.F., Doyle, M.B., & Suter, J.C. (2012). Constructively responding to requests for paraprofessionals: We keep asking the wrong questions. *Remedial and Special Education*, 33(6), 362-373. https://doi.org/10.1177/0741932511413472 [14, 15]
- Giangreco, M.F., Edelman, S.W., & Broer, S.M. (2001). Respect, appreciation, and acknowledgement of paraprofessionals who support students with disabilities. *Exceptional Children*, 67, 485-498. [17]
- 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*, 45-63. [8, 9, 10, 11, 12, 13, 14, 15, 16, 17]
- Giangreco, M.F., Edelman, S, Luiselli, T.E., & MacFarland, S.Z. (1997). Helping or hovering? Effects of instructional assistant proximity on students with disabilities. *Exceptional Children*, 64(1), 7-18. [15, 21]
- 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(3), . [8-15, 21]
- Giangreco, M. F., Suter, J. C., Hurley, S. M. (2013). Revisiting personnel utilization in inclusion-oriented schools. *Journal of Special Education*, 47(2), 121-131. doi: 10.1177/0022466911419015 [8, 9, 10, 11, 12, 24]
- Giangreco, M.F., Yuan, S., McKenzie, B., Cameron, P., & Fialka, J. (2005). "Be careful what you wish for...": Five reasons to be concerned about the assignment of individual paraprofessionals. *Teaching Exceptional Children*, 37(5), 28-34. [22]
- Giangreco, M.F., Halvorsen, A., Doyle, M.B., & Broer, S.M. (2004). Alternatives to overreliance on paraprofessionals in inclusive schools. *Journal of Special Education Leadership*, 17(2), 82-90. [14, 22]
- Girty v. School District of Valley Grove, 163 F. Supp. 2nd 527 (W.D.Pa., 2001). [5]
- Holler, R.A. & Zirkel, P.A. (2008). Section 504 and public schools: A national survey concerning "Section 504-only" students. *NASSP Bulletin*, 92, 19-43. [3]
- Kennedy, M.M. (1999). Approximations to indicators of student outcomes. *Educational Evaluation and Policy Analysis*, 21, 345-363. [21]

- Kozleski, E., Mainzer, R., & Deshler, D. (2000). Bright futures for exceptional learners: An action agenda to achieve quality conditions for teaching and learning. *Teaching Exceptional Children*, 32, 56-69. [8, 9, 10, 11, 12]
- Linn-Mar Community School District, 41 IDELR 24 (SEA IA 2004). [15]
- 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 behavioral disorders. *Journal of Research in Childhood Education*, 20, 301-312. [17]
- Marks, S.U., Schrader, C., & Levine, M. (1999). Paraeducator experiences in inclusive settings: Helping, hovering, or holding their own? *Exceptional Children*, 65, 315-328. [14, 15, 17]
- 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, 363-77. [17]
- Minondo, S., Meyer, L.H., & Xin, J.F. (2001). The roles and responsibilities of teaching assistants in inclusive education: What's appropriate. *Journal of the Association for Persons with Severe Handicaps*, 26, 114-119. [17]
- Pickett, A. L., Likins, M., & Wallace, T. (2003). *The employment and preparation of paraeducators*. New York: National Resource Center for Paraprofessionals. <a href="http://www.nrcpara.org/resources/stateoftheart/index.php">http://www.nrcpara.org/resources/stateoftheart/index.php</a> [14]
- 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. [8, 9, 10, 11, 12]
- Suter, J. C., Giangreco, M. F., & Bruhl, S. A. D. (2020). Special education personnel absences in inclusion-oriented schools: Implications for building effective service delivery models. *Remedial and Special Education*, 41(6), 341-351. https://doi.org/10.1177/0741932519865617 [8, 9, 10, 11, 12]
- U.S. Department of Education, National Center for Education Statistics (2021). *The Condition of Education* 2021. <a href="https://nces.ed.gov/programs/coe/">https://nces.ed.gov/programs/coe/</a> [2]
- U.S. Department of Education. (2020). *IDEA Section 618 Data Products* [Data set]. <a href="http://www2.ed.gov/programs/osepidea/618-data/">http://www2.ed.gov/programs/osepidea/618-data/</a> [5, 13, 14]
- U.S. Department of Education, Office for Civil Rights. (2021) 2017-2018 State and National Estimations [Data set]. <a href="http://ocrdata.ed.gov">http://ocrdata.ed.gov</a> [3]
- Vermont Agency of Education. (2021). Vermont Education Dashboard: Student Characteristics [Data set]. [2, 3, 4]
- Vermont Department Education (2005). Estimated FTE of Aides Employed for K-12 Special Education (raw data). Montpelier: Author. [14]
- Wallace, T., Shin, J., Bartholomay, T., & Stahl, B. (2001). Knowledge and skills for teachers supervising the work of paraprofessionals. *Exceptional Children*, 67, 520-533. [13]
- Wang. M.C., & Finn, J.D. (2000). *How small classes help teachers do their best*. Philadelphia: Temple University Center for Research in Human Development and Education and the U.S. Department of Education. [1]

### Interpreting the Data and Acknowledging its Limitations

The purpose of the *Numbers that Count!* data is provide an initial glimpse into a subset of schooling practices and demographics in an effort to illuminate issues that can lead to constructive dialogue within the school community in an effort to improve educational opportunities and outcomes for students. Therefore, they should be used as springboard for reflection and potential action and not viewed as a final word.

The data provided in the *Numbers that Count! Data Grid* are subject to many of the same limitations as any data, regardless of whether it is quantitative or qualitative. So as you consider the finding please keep the following limitations in mind:

- 1. Like all data, these data are partial (we only collected data on a subset of issues) and bound by context. Therefore, they should not be considered comprehensive and should be considered in context.
- 2. Data were collected from a small sample of special educators, about a small set of interrelated issues, at a single point in time.
- 3. Errors can sometimes occur in the raw data submitted by respondents for a variety of reasons (e.g., simple recording mistakes, misinterpretation of questions, idiosyncratic interpretation of questions, imprecisely worded questions on a questionnaire). So it is possible (maybe even likely) that some of these errors exist in these data. Therefore, if any numbers seem substantially out of kilter, it is advisable to not rush to judgment on their meaning and consider them in light of other findings and what is known about the context.
- 4. Through this process, we found that even seemingly simple issues (e.g., special educator caseloads) are never as simple as they might seem (e.g., SLPs functioning as special educators, special educators sharing caseloads, special educators not working directly with students they case manage and/or working directly with students they don't case manage). Therefore, even though the numbers are presented distinctly, some may be "fuzzier" than others because of the nuances that exist across and within schools. That is one reason why we have chosen to offer face-to-face debriefing.

Despite the inherent limitations in these data, they offer a variety of interesting and important information that can be utilized to improve opportunities and outcomes for students with disabilities and there peers without disabilities.

We hope you find these data helpful in your school improvement process,

- Michael F. Giangreco & Jesse C. Suter

# Numbers that Count! Your Numbers, What they Might Mean, and What Your School Can do About it

School Name:	Winooski Middle School	Grades Reported on:	6	to 8
Data Collection Date:	Oct 4, 2021	Total School Population:	156	students
Debrief Date:	Nov 3, 2021	Number (%) of Minority Students:	92	59.0%
Data Collected & Analyzed by:	Michael F. Giangreco & Jesse C. Suter (CDCI / UVM)	Number (%) Students on Free/ Reduced Lunch:	110	70.5%
School Setting:	Urban	Number (%) of Students English		
*Number of Special Educators Reported on:	5 *Note: Only Special Educators with	Language Learners (ELL):	57	36.5%
Number of Students w/1:1 Supports Reported on:	0.40 FTE or higher were included.	Number (%) of Students From Other Schools in District:	2	0.6%

*Aim of the Activity:* To collect data about special education service delivery that can help inform school improvement. *Steps Involved:* 

- 1. Collect data using the *School Demographic Questionnaire* from a school administrator.
- 2. Collect data using the *Special Educator Questionnaire* from all special educators in the school.
- 3. Collect data using the *Student Questionnaire* from those special educators who have students with full-time, one-to-one, paraprofessional supports in general education classes (one for each such student).
- 4. Summarize data and insert into appropriate spaces provided below.
- 5. Convene a team to review and consider the level of concern (see key below) corresponding to each piece of data.
- 6. Consider potential actions your school can take to improve service delivery to students with and without disabilities.

## Numbers that Count! Data Grid

\*Generic information, not specific to your setting. \*\*Key: N = None L = Low M = Moderate H = High

You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
	Ave	rage Cla	ss Size		Small class size (e.g., 1:15), especially in the		•	Reduce class size
	(Gen	ieral Edu	cation)				•	Co-teaching (general and
		M = 1	5		1 - 1			special
		101 — 1	.5		Standards suggest that classes K-3, should			educators)
					average fewer than 20 students, and in grades		•	Distribute
					4-8 average fewer than 25. At the high school			students with
								disabilities to
Δν.ο	rage Cra	ade Ran	ge Cove	red by				ensure natural
1100	_		_	ica by				proportions
	spe	Ciai Euu	cators		· · · · · · · · · · · · · · · · · · ·		•	Reduce the range of grades and/or
$\prod_{n}$	М	SD	Low	High				subjects for
				_				which special
	3.0	0.0	3	3				educators are
					students with disabilities in the school), various			responsible.
					problems may arise (e.g., difficulty meeting			-
					instructional needs, behavior management,			
					planning time).			
					When enecial adjugators are responsible for			
					1 ^			
					need to collaborate with and creates a wider			
					range of curriculum for which they must be			
					knowledgeable.			
		Average Gra	Average Cla (General Edu M = 1 Average Grade Rang Special Edu n M SD	Average Class Size (General Education) $M = 15$ Average Grade Range Coverage Special Educators $n \mid M \mid SD \mid Low$	(General Education) $M = 15$ Average Grade Range Covered by Special Educators    n M SD Low High	Average Class Size (General Education)  M = 15  Average Grade Range Covered by Special Educators  Numbers that Count  Average Grade Range Covered by Special Educators  Numbers Educators  Numbers that Count  Small class size (e.g., 1:15), especially in the lower grades is positively correlated with student achievement, participation, and improved behavior. Vermont's School Quality Standards suggest that classes K-3, should average fewer than 20 students, and in grades 4-8 average fewer than 25. At the high school levels total rolls should not exceed 100 in English/Language Arts or average above 150 in other subject areas (both total would be divided by the number of class sections to determine average class size). Regardless of class size, if the percentage of students with disabilities substantially exceeds the "natural proportion" (the percent of students with disabilities in the school), various problems may arise (e.g., difficulty meeting instructional needs, behavior management, planning time).  When special educators are responsible for students across multiple grades this increases the number of general education teachers they need to collaborate with and creates a wider range of curriculum for which they must be	Average Class Size (General Education)  M = 15  Average Grade Range Covered by Special Educators  n M SD Low High 5 3.0 0.0 3 3 3  Megardless of class size, if the percentage of students with disabilities substantially exceeds the "natural proportion" (the percent of students with disabilities in the school), various problems may arise (e.g., difficulty meeting instructional needs, behavior management, planning time).  What They Might Mean If They are Too High or Low* N-L-M-H  Small class size (e.g., 1:15), especially in the lower grades is positively correlated with student achievement, participation, and improved behavior. Vermont's School Quality Standards suggest that classes K-3, should average fewer than 20 students, and in grades 4-8 average fewer than 25. At the high school levels total rolls should not exceed 100 in English/Language Arts or average above 150 in other subject areas (both total would be divided by the number of class sections to determine average class size). Regardless of class size, if the percentage of students with disabilities ubstantially exceeds the "natural proportion" (the percent of students with disabilities in the school), various problems may arise (e.g., difficulty meeting instructional needs, behavior management, planning time).  When special educators are responsible for students across multiple grades this increases the number of general education teachers they need to collaborate with and creates a wider range of curriculum for which they must be	Average Class Size (General Education)  M = 15  Small class size (e.g., 1:15), especially in the lower grades is positively correlated with student achievement, participation, and improved behavior. Vermont's School Quality Standards suggest that classes K-3, should average fewer than 20 students, and in grades 4-8 average fewer than 25. At the high school levels total rolls should not exceed 100 in English/Language Arts or average above 150 in other subject areas (both total would be divided by the number of class sections to determine average class size).  Regardless of class size, if the percentage of students with disabilities substantially exceeds the "natural proportion" (the percent of students with disabilities in the school), various problems may arise (e.g., difficulty meeting instructional needs, behavior management, planning time).  When special educators are responsible for students across multiple grades this increases the number of general education teachers they need to collaborate with and creates a wider range of curriculum for which they must be

Numbers that Count! Winooski Middle School Page 2

#	Your School's Nui	nbers that	t Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
2	Number (%) of S  Total At School Off Campus  Students w / IEPs on Alternate Assessment  *1.3% of total stu (IDEA allows up to	n       49       47       2       3       2       ident population population in the population of the population o	% 31.4% 95.9% 4.1%  4.1%*	In Vermont, students with disabilities on IEPs was approximately 15% and 14% nationwide (2019-2020). Since these are averages, the actual percentages vary from school to school and there may be reasons why an individual school's percentage of students with disabilities on IEPs varies from the averages. In other cases, particularly high numbers of students with disabilities on IEPs may signal systemic problems such as over-identification of students, problems with referral and/or eligibility practices and procedures, or problems with schoolwide programs and services designed to meet student needs without necessitating referral to special education.		Scrutinize special education eligibility procedures     Improve supports schoolwide and increase capacity of general education to reduce reliance on special education
3	Number (%) of Stu  Total At School Off-Campus	dents on 5  n 4 4 0	% 2.6% 100.0%	In Vermont schools, the percentage of students with disabilities on 504 Plans is approximately 5.5%, and 2.7% nationwide (2017-2018). Since these are averages, the actual percentages vary from school to school and there may be reasons why an individual school's percentage of students with disabilities on 504 plans varies from the averages. In other cases, particularly high or low numbers of students with disabilities on 504 may signal under or overutilization of this option, especially when considered in relationship to the number of students on IEPs and those considered "at risk" who are being served on Educational Support Team (EST) plans		Scrutinize 504     eligibility     procedures

	Your School's Nu	mbers that	t Count		Level of Concern** N-L-M-H		Potential Actions*
4	Number (%) of St Receiving Supp			In Vermont schools, the percentage of students (without disabilities) who are on Educational Support Team (EST) plans is over 6% (2020). There are no comparable national data. Since		•	Scrutinize EST / "at risk" supports and services
	Total	10	6.4%	these are averages, the actual percentages vary from school to school and there may be reasons		•	Improve supports
	At School	10	100.0%	why an individual school's % of students			schoolwide in an
	Off-Campus	0	0.0%	without disabilities on EST plans varies from the averages (e.g., poverty). In other cases,			effort to reduce the number of
				particularly high or low numbers of students without disabilities on EST plans may signal under or over-utilization of this option, especially when considered in relationship to the number of students on IEPs and 504 plans.			students "at risk"
5	Number (%) of Students with Disabilities (on IEPs) whose Primary Educational Placement is in General Education			In Vermont schools, the percentage of students with disabilities on IEPs who have their primary placement (at least 80% of the time) in general education classes with supports is approximately 79% (2020), down from a		•	Scrutinize initial and annual placement procedures to ensure that each
		п	%	historic high of 88% (1992); State Performance			year each student
	In general ed 80% or more	39	79.6%	Plan target was 79%, and approximately 65% nationwide. The percentages vary quite substantially based on disability category, with			is considered for regular class placement with
	In general ed less than 80%	10	20.4%	students who have high-incidence disabilities (e.g., speech/language impairments, learning disabilities) being included at substantially			supplemental supports and aids.
				higher rates than those with lower-incidence disabilities (e.g., intellectual disabilities, multiple disabilities, emotional disturbance).  Any time students are not afforded supported access to the general education classroom and		•	Explore teacher attitudes and conceptualization of regular class

#	Your School's Numbers that Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
		curriculum, it warrants close scrutiny to ensure that students' educational rights are protected and they have full access to quality education. Placement of students with disabilities in more restrictive settings (e.g., special class, special school) raises potential questions about: (a) the annual procedures used to determine placement in the LRE (least restrictive environment), (b) attitudes and expectations about including the full range of students with disabilities, (c) potential misapplication of IDEA LRE provisions, or (d) knowledge and skills about how to successfully include the full range of students with disabilities in general education settings. Students need not function at the same level as their classmates for the regular class to be the LRE.		placement to ensure that all faculty understand how students with a full range of disabilities and levels of severity can be meaningfully included in regular class (even when they are pursuing different learning outcomes.
6	Number of Students with Disabilities (on IEPs) in non-residential placements outside of your school $n=2$ $\%=4.1\%$	Any time students with disabilities are placed outside of your school district, it warrants close scrutiny to ensure appropriateness for the student. Further it raises potential questions about whether there is a sufficient continuum of supports within the district.		Put in place (or strengthen) supports to avoid out of district placements.
7	Number of Students with Disabilities (on IEPs) in residential placements $n = 0   \% = 0.0\%$	Since residential placements are among the most restrictive placements, they always require close scrutiny to ensure appropriateness for the student. Further it raises potential questions about whether there is a sufficient continuum of supports within the district.		Explore supports that could be put in place or strengthened to avoid residential placements.

#	Your School's Numbers that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
8a	Information supplied by the sc Number of Special Educators		The number of special educators in the school is one of the most important numbers to consider when supporting students on IEPs, not just the number of actual people, but the		•	Compare amount of special education time on IEPs with
	Number of Special Educators Special Educator (SPED) FTE	4.64	amount of their FTE dedicated toward students on IEPs (since some people may be part-time or have split assignments, such with Title I or 504). Although examining the ratio of special			amount of assigned special educator time (account for direct, indirect, and consultative time). Allocate special education
	SPED FTE for on-campus students  SPED FTE for off-campus	4.50	educator FTE to students on IEPs is important, the simple ratio can be misleading because it doesn't address the range of caseload sizes and			
	students	0.14	doesn't account for the varying percentage of students with disabilities in a school. Therefore,		•	
	Number of Speech Language Pathologists (SLP) serving as Special Educators	0	when tracking a school or district's special education service delivery from year to year, it can be helpful to compare the amount of			resources based on ratio of combined special
	SLP serving as SPED FTE Combined SPED FTE	0.00 4.64	special education FTE to the total school population; this ratio will account for changes in school population growth or decline and			educator FTE to total school population (8c)
	Combined SPED FTE at school	4.50	changes in the percentage of students identified as having a disability. One study (Suter &			rather than only number of
8b	Ratio of Combined Special Educator FTE to Students on IEPs ( <i>at school</i> )  1: 10.4		Giangreco, 2009) considered this ratio "special educator school density." Subjective reports indicated "the lower the ratio the more these schools could absorb the fluctuations that are a routine aspect of public schooling (e.g., the		•	students on IEPs. Reduce special educator caseload size.
8c	Ratio of Combined Special Ed FTE to the Total School Popu (at school) 1: 34.2		enrollment of a new student with intensive special needs)." Schools with ratios from 1:50 to 1:79 reported they had the resources they needed; from 1:80 to 1:100 responses were mixed; and schools higher than			

	You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
9a	Ave	nation su rage Spe Number	cial Edu	Icator Ca		1:100 were more consistently challenged. When special educator caseloads are high, it is one of the key contributors to special educators leaving the field, experiencing "burnout", so simply diminishing their ability to do their	•	Consider adding special educators through resource reallocation (e.g., trading	
	<i>n</i> 5	<i>M</i> 9.6	SD 4.7	Low 2	High 13	work. A recent study (Suter, Giangreco, & Bruhl, 2019) identified a relationship between special educator school density and absence			paraprofessional positions for special educator
9b	b IEP Caseload Breakdown Providing Primary IEP Services					rates of special educators. Students' education is disrupted by key personnel absences. Another study (Giangreco, Suter, Hurley, 2013)		•	positions). Reduce the range of grades and/or
	<i>n</i> 5	M 2.4	SD 3.3	Low 0	High 8	found that both special educator school density and a special educator's caseload were significantly related to their ratings of work			subjects for which special educators are
		Shar	ing IEP	Services		responsibilities being conducive to providing effective special education to students on IEPs			responsible. Explore reducing
	5 Pr	4.6 oviding F	3.6 Few Direc	0 ct IEP Se	9 rvices	(see item 24).  Although there is limited data on special educator caseloads, and no Vermont or federal			variability in special educator caseload size.
	5	2.6	2.4	0	5	regulations or guidelines, it is important to consider whether the special educator can		•	Explore regular education
9c	Students with IEPs Supported but Not on Official Caseload					reasonably and sufficiently address the specialized needs of the students on the caseload as reflected in the IEP. In addition to		supports for students on 504 or EST plans.	
	n	М	SD	Low	High	the number of students, it is important to			
	5	8.2	6.6	0	16	consider the students' characteristics, whether the special educator is the primary provider of			
9d	9d Percentage of Out-of-Class Instruction					services or not, the range of grade levels and the number of teachers with whom a special			
	n	М	SD	Low	High	educator works.			
	5	46.2%	31.8%	20%	100%	When the number of students with special educational needs on one caseload exceeds 10			
L Viimhors	that C	244441	•			Winooski Middle School			Раде

Numbers that Count! Winooski Middle School Page 7

							Level of Concern** N-L-M-H	Potential Actions*
10a			ecial Edu Students			has suggested an inverse relationship between caseload size and instructional time.  Special educators with higher caseloads tend to provide a smaller amount of instructional time		See information on pages 6-7
	n	М	SD	Low	High	to their students; as the caseload size decreases the amount of instructional typically increases.		
	5	0.0	0.0	0	0	When the special educator has a higher		
10b			Caseloac Primary			caseload students with disabilities tend to get less instruction or receive their instruction from less qualified personnel (e.g.,		
						paraprofessionals). This is inconsistent with both the IDEA and ESSA efforts to ensure that		
	5	0.0	0.0	0	0	all students have ongoing access to instruction		
		Shar	ing 504 s	Services		from highly qualified teachers. It can also put schools at risk for due process complaints or		
	5	0.0	0.0	0	0	legal actions because it may violate the LRE		
	Pro	oviding I	Few Dire	ct 504 Se	rvices	provisions in IDEA.  More instruction in regular class allows		
	5	0.0	0.0	0	0	students to benefit from co-teaching between		
10c	St		on 504 Si ot on Cas		d but	special educators and general educators, receive peer supports, and be more a part of the general classroom community.		
	п	М	SD	Low	High			
	5	0.6	1.3	0	3			

							Level of Concern** N-L-M-H	Potential Actions*
11a				ıcator Ca s on EST		See information on pages 6-7		See information on pages 6-7
	п 5	M 0.0	SD 0.0	Low 0	High 0			
11b	ES	ST Plan (	Caseload	d Breakd EST Ser	lown			
	п 5	M 0.0	SD 0.0	Low 0	High 0			
			ing EST	Services				
	5	0.0	0.0	0	0			
	P	rovide Fe	w Direct	EST Ser	vices			
	5	0.0	0.0	0	0			
11c	Students on EST Supported but Not on Caseload				d but			
	n	М	SD	Low	High			
	5	1.6	2.6	0	6			

							Level of Concern** N-L-M-H	Potential Actions*
12a	Percei	ntage of	Time Wo	_	s Special	Item 12 provides a few alternatives to examining special educator caseloads. The first (12b) is the <i>full equivalent caseload</i> which is the		See information on pages 6-7
	n	М	SD	Low	High	number of students on IEPs special educators		
	5	90.0%	22.4%	50%	100%	would have if 100% of their time were directed toward students on IEPs.		
12b	l	Equivale IEPs ( <i>Cı</i>			Students Time)	The second (12c) is the average special educator caseload including students with		
	n	M	SD	Low	High	IEPs, 504 plans, and EST plans.		
	5	10.0	3.9	4	13	The third (12e) is the average number of		
12c	Act	ual Case	load (IE	P + 504	+ EST)	students supported by special educators (including both students on their caseloads plus).		
	n	M	SD	Low	High			
	5	9.6	4.7	2	13			
12d	Stude		ported N P + 504 +		Caseload			
	n	М	SD	Low	High			
	5	10.4	8.6	0	19			
12e		on &	udents S & off Cas P + 504 +		ed			
	n	М	SD	Low	High			
	5	20.0	13.0	2	32			

							Level of Concern** N-L-M-H		Potential Actions*
13a	Sup (inform on the  n 5	pervised nation property parapro M 2.8 tio of Sp	Per Sporovided by ofessional SD 1.1 Pecial Edition Para	Low 2 ucator F	ucator educators upervise) High 4 TE to ional FTE	The limited existing data suggests that when the ratio of special educators to special education paraprofessionals exceeds 1:2, the service delivery model may be unbalanced. In part the data suggest that when special educators have more than one or two paraprofessionals they have insufficient time to train/supervise/direct their activities. In a recent study where on average each special educator supervised 4 paraprofessionals, they only spent about 2% of their time per paraprofessional. The maximum number of paraprofessionals supervised by a single special educator was 14 leaving insufficient time for supervision or instruction. This exacerbates the problems mentioned earlier, leaving too many paraprofessionals to fend for themselves. Based on federally reported data (2019 for students ages 6-21), Vermont is one of 6 states with a special educator FTE to special education paraprofessional FTE ratio higher than 1:2 (VT is 1 : 2.4). In contrast, the US ratio	N-L-M-H	•	Increase the number of special educators or reduce the number of parapros. Explore classroom teachers assuming primary or shared roles for supervising parapros. Explore redistribution of paraprofessionals (and students if necessary) among special educators to more evenly
						was 1:1.2, and 20 states have more special educator FTE than special education paraprofessional FTE. Though the averages can be illuminating, the range is critically important because the distribution of paraprofessionals per special educator can vary substantially.			distribute paraprofessional supervision.

	Your School's Number	s that C	Count		Level of Concern** N-L-M-H		Potential Actions*
14a	Information supplied b  Total Number (in  Paraprofessionals	FTE) of At Scho	f ol	At present, there is no research on desirable numbers of general and special education paraprofessionals in schools. Data indicate that there has been a substantial increase in the numbers of paraprofessionals with ongoing		•	Explore service delivery to ensure that students with disabilities receive their
	Number of paraprofessi Paraprofessional FTE FTE assigned to generated education		16.0 14.2 2.7	growth. In 2019, there were 440,215 (FTE) special education paraprofessionals K-12 nationally, and their use has substantially increased.  For example, in Vermont in 1990 there were		•	primary instruction from teachers and special educators. Explore
	FTE assigned to speci education	al	11.5	fewer than 1,200 (FTE) special education paraprofessionals (K-12). By 2019, there were more than 2,800 (FTE). When adjusted for population increases and changes in child count, on average in 1990 there was approximately one special education			opportunities to have some paraprofessionals based funded by general education. If the number of
14b	Ratio (in FTE) of Speci Paraprofessionals to Stu (at school)			paraprofessional for every nine students on an IEP; by 2019 there was an average of one special education paraprofessional for every four and one-half students on IEPs. Small-scale studies suggest that Vermont's use of special			paraprofessionals or ratio of special education paraprofessionals to students on
	All students with IEPs Students with IEPs with 1:1 support		9.6%	education paraprofessionals may be among the highest in the nation. At the same time, data suggests that paraprofessionals' roles have become increasingly instructional, with some			IEPs is identified as a concern, consider using the schoolwide
	Available to students with IEPs not receiving 1:1 support	1:6.1		students with disabilities getting more of their education from under qualified personnel.  Larger special educator caseloads typically provide insufficient time to plan for and direct the work of paraprofessionals, too often leaving paraprofessionals to make numerous curricular and instructional decisions.			planning process, Guidelines for Selecting Alternatives to Overreliance on Paraprofessionals.

	Your School's Numbers	that C	Count		Level of Concern** N-L-M-H		Potential Actions*
15a	Subset of Special Ec Paraprofessional FTE (I Information supplied I	isted in by scho	14a) ol:	Over the past two decades there has been a substantial increase in the number of special education paraprofessionals assigned, one-to-one (full-time) to students with disabilities.  Although this type and level of support is		•	Re-assign full- time, one-to-one paraprofessionals as classroom paraprofessionals
15b	80% or more 40% to 79%	2.5 Its with nal Sur Ition C	44.4% 55.6% a IEPs apport lasses	undoubtedly offered with benevolent intentions, a series of studies have documented that this model of service delivery is fraught with numerous unintended detrimental effects (e.g., isolation from classroom activities and peers, stigmatization, provocation of behavior problems). Use of 1:1 paraprofessional support is one of the most restrictive supports than can be offered to a student and therefore should be closely scrutinized. Even in cases where students have extensive support needs, rarely do they need 1:1 paraprofessional support 100% of the time. The literature suggests that if the paraprofessionals are being used in place of instruction from teachers and special educators it is problematic. Use of 1:1 paraprofessionals has become a convenient, though often illadvised, first (and sometimes lone) option for supporting students with disabilities in general education classrooms. In addition, recent legal proceedings suggest that in some cases the use of 1:1 paraprofessional services without a plan for increasing student independence may be considered a violation of FAPE.		•	or consider a split funding FTE.  If student needs are low frequency or intermittent, consider using a paraprofessional pool (e.g., where a paraprofessional moves between situations on a prescheduled or as needed basis). Explore options for more instruction from teachers and special educators. Explore peer supports.

Your	School'	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
Repo	orted) Av	ve. % of	Time Sp	ent on:	Please Note: Special Educators were asked to report on the percentage of time spent on these activities regardless of how many hours they devote to work.  These percentages include any time spent working		•	Establish desired time use for special educators to take best
п	М	SD	Low	High	outside of the regular school day. Therefore, these			advantage of their skills and
5	17.3	13.0	9	40	time spent during the school day and when students			knowledge; then
<del>- 1</del>	Collaboration with Others				1 ' ' ' '			explore strategies
5 11.7 4.6 5 17				17	1			to establish alignment
	_				concer may enay (e.g.) time enang).			between desired
	Beh		pport		There are no agreed upon parameters for how			and actual time
5	14.5	9.8	9	32				use. Compare
Ins	struction	al Time a	with Stud	lents	considered a strong proxy indicator of			findings to data sources that
5	28.5	13.1	10	41	educators report that they get their motivation			exclusively focus
		Plannin	18		and reinforcement from working directly with students and seeing them learn therefore the			on special educator time
5	10.3	4.8	5	17.4	1 2 2			use during the school day (e.g.,
	Torking u	vith Para	professio	nals	school is "How do you want your special			time study).
5	4.9	3.7	1	10	want them doing paperwork and supervising			
	Working with Families				you want them teaching students with			
5	9.3	6.6	3	20	teachers?			
0.11								
5	3.4	<u> </u>	0	10				
	Repo       n       5       5       5       5       5       5       5       5	Reported) Av Special E         n       M         5       17.3         Collabo         5       11.7         Beh         5       14.5         Instruction         5       28.5         5       10.3         Working	Reported) Ave. % of Special Education         n       M       SD         5       17.3       13.0         Collaboration with 5         5       11.7       4.6         Behavior Sums Sums Sums Sums Sums Sums Sums Sums	Reported) Ave. % of Time Sp. Special Education Paperwood           n         M         SD         Low           5         17.3         13.0         9           Collaboration with Other           5         11.7         4.6         5           Behavior Support           5         14.5         9.8         9           Instructional Time with Study           5         28.5         13.1         10           Planning           5         10.3         4.8         5           Working with Paraprofession           5         4.9         3.7         1           Working with Families           5         9.3         6.6         3	5       17.3       13.0       9       40         Collaboration with Others         5       11.7       4.6       5       17         Behavior Support         5       14.5       9.8       9       32         Instructional Time with Students         5       28.5       13.1       10       41         Planning         5       10.3       4.8       5       17.4         Working with Paraprofessionals         5       4.9       3.7       1       10         Working with Families         5       9.3       6.6       3       20    Other	Special Educator Time Use (Self-Reported) Ave. % of Time Spent on: Special Education Paperwork    n	Special Educator Time Use (Self-Reported) Ave. % of Time Spent on: Special Education Paperwork    N	Special Educator Time Use (Self-Reported) Ave. % of Time Spent on: Special Education Paperwork    n

#	You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
17a		al Educat		%of Tim	ported by e Spent:	Existing data suggests that special education paraprofessionals are expending an increasing portion of their time on instruction. Under some circumstances this may be positive,		•	Establish desired time use for special education paraprofessionals
	n	M	SD	Low	High	though much depends on whether the instruction they provide is primary or			to take best advantage of
17b	5	1.2 Supera	2.2 vision of	0 Students	5 :	supplemental; in too many cases it is inappropriately the primary instruction.  Whether the increase in instruction by			their skills and knowledge; then explore strategies
	5	17.0	21.1	0	50	paraprofessionals is desirable also depends on whether they are properly trained and			to establish alignment
17c			Personal (	Care:		otherwise qualified for the tasks they are being asked to perform. Existing data suggests that			between desired and actual time
	5	3.2	4.3	0	10	many paraprofessionals are assigned to support students in classes where they report			use.
17d	5	36.2	19.5	pport:	60	being under-skilled or unskilled. This becomes increasingly problematic in the upper elementary grades, middle school, and high			
17e	Impl	ementing Teacher		tion Plan al Educat	U	school. As one study participant (paraprofessional) stated, "I don't do algebra." The breakdown of paraprofessional time use is			
	5	40.8	30.3	10	84	designed to assist your school reflect on how you want paraprofessionals spending their			
17f	Engaging in Self-Directed Activities, North Planned or Supervised by Teacher/SPED					time. In some cases there is renewed interest in having paraprofessionals engage in non-instructional tasks that allow teachers and special educators to spend more time directly			
	5	1.6	2.3	0	5	teaching students with disabilities these non-			
17g			Other	•		instructional duties and supplemental instructional roles need to be clearly			
	5	0.0	0.0	0	0	established as highly valued role.			

	Your School's Numbers	that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
	Number of Students w Paraprofessional Suppor IDEA Disability Ca	t by P	rimary	Virtually no state or national data exist on the disability categories of students with disabilities who are receive full-time, one-to-one paraprofessional supports. Because the		This informational item can assist in understanding
	Disability	n	%	variability and severity with each category is substantial, these data offer only a modest		items 13 and 14 regarding
	Autism	4	66.7%	amount of information to consider (more detailed and relevant data are found in item		paraprofessional utilization and
	Deaf-Blindness	0	0.0%	20). In general, we suggest that you should especially scrutinize situations where the		can highlight if
	Developmental Delay	0	0.0%	disability category is most closely associated		any particular categories are
	Emotional Disturbance	1	16.7%	with students who have high-incidence/mild disabilities. For example, if you have students		unusually represented (e.g.,
	Hearing Impairment	0	0.0%	in categories such as learning disabilities (LD) it should be explored further. It is more		high incidence disabilities).
	Intellectual Disability	0	0.0%	common (though not necessarily more		<u> </u>
	Multiple Disabilities	1	16.7%	appropriate) for students in categories most closely associated with low-incidence/severe		
	Orthopedic Impairment	0	0.0%	disabilities (e.g., deaf-blindness, multiple disabilities) to receive one-to-one		
	Other Health Imp.	0	0.0%	paraprofessional supports. It should be noted that some schools have made a decision to		
	Specific Learning Dis.	0	0.0%	completely move away from the use of full-		
	Speech/Language Imp.	0	0.0%	time one-to-one paraprofessionals because of its known problems. In these cases students		
	Traumatic Brain Injury	0	0.0%	may receive such supports at specific times and for specific purposes (e.g., personal care		
	Visual Impairment	0	0.0%	supports).		
	Total	6	100.0%			

#	Your School's Numbers	s that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
19	Number of Student Paraprofessional Sup Participate in Alternate	port V	Vho	Please note: We recommend exploring any discrepancies between special educators' response to this item and item 2.  Virtually no state or national data exist on the number of students who receive full-time one-		•	This item can assist in understanding items 13 and 14 regarding paraprofessional
	Students on Alternate Assessment	1	16.7%	between those students with severe enough disabilities to warrant alternate assessment (most significantly impaired 1%) and those who warrant one-to-one supports. If a			utilization and can highlight students who are
	Students not on Alternate Assessment	5	83.3%				receiving full- time, one-to-one supports, but
	Total	6	100.0%	substantial number of students who are receiving one-to-one supports are not eligible for alternate assessment it may be of concern and one way to cross-check the level of need.			who are not eligible for alternate assessment.
20a	Type and Level of Disal Those Receiving Ful Paraprofessional S	l-Time	1:1 ts	There are virtually no state or national data on the types and levels of disability among students who are receiving full-time, one-to-one paraprofessional supports. Given the		•	This informational item can assist in understanding
20a	Intellectual / Learning None	<b>n</b> 0	0.0%	inherent variability within the IDEA disability categories, having a better understanding of			items 13, 14 and 18, regarding
	Mild	3	50.0%	the types and levels of disabilities can assist your school as it reflects on which students are receiving full-time, one-to-one			paraprofessional utilization and
	Moderate	0	0.0%	paraprofessional supports and whether any			can highlight if any particular
	Severe	3	50.0%	patterns exist that can facilitate school			types or levels are unusually
	Total	6	100.0%	improvement planning. Once you ascertain the characteristics and levels you can begin asking questions such as: (a) Do these students need paraprofessional supports all day? (b) What is			represented (e.g., mild disabilities).

#	Your School's Numbers	s that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
				the paraprofessional doing when the student is		See information on
20b	Physical / Orthopedic	n	%	with the teacher, special educator, or a related services professional? (c) Are the duties being		page 17
	None	4	66.7%	fulfilled by the paraprofessional most		
	Mild	1	16.7%	appropriate for them to deliver, or are they better provided by a peer, teacher, or special		
	Moderate	0	0.0%	educator?		
	Severe	1	16.7%			
	Total	6	100.0%			
20c	Behavioral / Emotional	n	%			
	None	0	0.0%			
	Mild	0	0.0%			
	Moderate	2	33.3%			
	Severe	4	66.7%			
	Total	6	100.0%			
20d	Vision	n	%			
	None	5	83.3%			
	Mild	0	0.0%			
	Moderate	0	0.0%			
	Severe	1	16.7%			
	Total	6	100.0%			

#	Your School's Numbers	that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
20e	Hearing Disability	n	%	See information on pages 17-18		See information on page 17
	None	6	100.0%			, 0
	Mild	0	0.0%			
	Moderate	0	0.0%			
	Severe	0	0.0%			
	Total	6	100.0%			
20f	Health Disability  None  Mild  Moderate  Severe  Total	n 4 1 1 0 6	% 66.7% 16.7% 16.7% 0.0% 100.0%			

#	You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
21a		Stude Parapro	nts Rece	eiving 1:		One of the most important aspects of successful inclusive environments is what has been referred to as "teacher engagement", namely the teacher's attitude of ownership for the education of the student with a disability in the regular classroom and the teacher's actions to		•	Establish desired instructional time use for special educators, teachers, and paraprofessionals
21b 21c	6 Spe 6	M 31.7 ecial Educ 30.0 Pa 38.3	SD 28.8 cators / I 19.2 raprofess 33.3	10	High 80 ervices 60 85	be knowledgeable and involved in the design and delivery of curriculum and instruction.  Existing data suggests that a substantial amount of primary instruction is provided paraprofessionals; there is little existing evidence that this approach is beneficial for students. A small number of studies have documented positive impact of paraprofessionals providing supplemental (not primary) instruction when they are appropriately trained and supervised in the implementation of researched-based approaches. Additionally, students with disabilities report feeling like outsiders in the classroom and less valued when they do not receive their instruction from the classroom teacher. Excessive use of paraprofessionals to provide instruction potentially establishes a double standard that would not be acceptable if applied to students without disabilities.		•	to take best advantage of their respective skills and knowledge; then explore strategies to establish alignment between desired and actual instructional time use. Increase instructional by teachers, special educators, and co-teaching.

#	Your School's Number	s that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
22	Number of Students W Team Members Have A Students to Have Fu Paraprofessional (as reported by Special  Team Member  General Education Administrator  Special Education Administrator  Classroom Teacher Special Educator Parent or Guardian  Student with a Disability  Other	There V Advoca Ill-Time Suppo	Various ted for e 1:1 rt	There are virtually no data on this topic in the professional literature other than limited descriptions suggesting that in some cases parents advocate for one-to-one paraprofessional supports. This is often rooted in parental concerns that their child will be lost in the shuffle of the regular classroom and that their individual needs will not be met. At other times it is school personnel (e.g., teachers, principal) who require that a paraprofessional be assigned to a student in order for them to have access to the regular classroom (sometimes this is contrary to the wishes of the parent). Students themselves are rarely involved in these support service decisions, a fact that runs contrary to the current emphasis on self-determination as a best practice.		•	Share information with families and school personnel about both the pros and cons (e.g., inadvertent detrimental effects) of utilizing full-time, one-to-one paraprofessional supports. Ensure that use of full-time, one-to-one paraprofessional support is neither the first or only option considered to support students with disabilities in general education classes (e.g., use Guidelines for
	n reported	6	100.0%			•	Selecting Alternatives to Overreliance on Paraprofessionals). Encourage self- determination by involving students in decisions about their own supports.

#	Your School's Number	s that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
23	Primary Reasons Why S Recommended : Paraprofessional S	for 1:1		There are virtually no data on this topic in the professional literature. Collecting data on the reasons why some students get assigned full-time, one-to-one paraprofessional support can assist schools in deciding: (a) whether the use		•	Consider use of paraprofessional pools or classroomassigned
	Reason	n	%	of a paraprofessional is a good match with the			paraprofessionals
	Safety of Student	5	83.3%	reasons; and/or (b) whether the reasons prompt consideration of other ways to meet			to address low frequency needs.
	Safety of Others	4	66.7%	students' needs more effectively using less restrictive approaches.		•	Consider use of generically
	Behavioral, Emotional, or Social Concerns (not safety issues)	6	100.0%	restrictive approaches.			available school personnel (e.g., school nurses,
	Physical, Health, or Personal Care	1	16.7%				guidance counselors). Consider
	Communication Support	3	50.0%				matches between personnel and functions to be
	Instructional / Learning Support	5	83.3%				served (e.g., if the function is
	Other	0	0.0%				instruction, who is best suited to
	n reported	6	100.0%				provide that
							support?).

#	You	r School	l's Nu1	nbers	tha	t Cou	ınt				-	_	ght Me igh or l		Level of Concern* N-L-M-H	- 1	Potential Actions*
24	My u	(Rated 1 = 5 10 =	onsibili ective s nts serv on a so Strongl Stron	ities ar special wed on cale of y Disa gly Ag	re con ledu IEP 1 to agree gree)	nduci cation s. 10	ve to 1 to	res wh the fee pro hel- perce a cor	educa ponsil mether m. Asi el thei viding p scho eive th	ators' ibilities the avide	feelings. Each verage pecial k concentive se ) assess orking o addi	gs town school is of educations of the educations of the educations of the education of the	vard the col need concerrators where are conservators and survives and survives and survives and survives and survives and survives are concerns	ge special ir work s to decide n or not for hether they nducive to apports can I educators and (b) begin		•	Identify subset of special educators with the most challenging caseloads Reduce caseload size Reduce range of classes and/or ages served Ensure no one
	1 4	5.3	3.8		ow 2	Hi	gh )	sp	oecial	educa	tor ra	tings	on this i	y found that item were cator school			special educator has too many students with
		,	ducators 7 c			<b>S</b>	pecial		-	_		educa	tor's IE	P caseload.		•	intensive needs Reduce the number of paraprofessionals a special educator is expected to supervise/direct
			Number of Special Educators													•	Consider limiting responsibilities for non IEP student Meet with the
		;	0	1	2	3	4	5	6	7	8	9	10				special educators and seek their input about what would improve their working conditions to
				trongly Disagree				Rat	ing	_			Strongly Agree				better serve students

### References

### [Number following citations correspond with numbered data items]

- A.C. & M.C. v. Board of Education of the Chappaqua Central School, No. NYSD:6-CV-04238, U.S. Dist. (April 27, 2007). [15] Achilles, C.A. (1997). Small classes, big possibilities. (1997). *The School Administrator*, 54(9), 6-9, 12-13, 15. [1]
- Ashbaker, B.Y., & Morgan, J. (2004, Spring). Legal issues relating to school paraprofessionals. *A Legal Memorandum Quarterly Law Topics for School Leaders: National Association of Secondary School Principals*, 1-8. [8, 9, 10, 11, 12, 13]
- Broer, S.M., Doyle, M.B., & Giangreco, M.F. (2005). Perspectives of students with intellectual disabilities about their experiences with paraprofessional supports. *Exceptional Children*, 71(4), 415-430. [22]
- Brown, L., Farrington, K., Ziegler, M., Knight, T., & Ross, C. (1999). Fewer paraeducators and more teachers and therapists in educational programs for students with significant disabilities. *Journal of the Association for Persons with Severe Handicaps*, 24, 249-252. [8, 10, 11, 12, 14, 15]
- Causton-Theoharis, J.N., & Malmgren, K.W. (2005). Increasing peer interactions for students with severe disabilities via paraprofessional training. *Exceptional Children*, 71, 431-444. [14, 20]
- 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. [14, 17]
- Chopra, R. V., & Giangreco, M. F. (2019). Effective use of teacher assistants in inclusive classrooms. In M. Schuelka, C. Johnstone, G. Thomas, & A. Artiles (Eds.), *The SAGE Handbook on Inclusion and Diversity in Education* (pp. 193-207). Sage. http://dx.doi.org/10.4135/9781526470430.n18 [14, 15]
- Etscheidt, S. (2005). Paraprofessional services for students with disabilities: A legal analysis of issues. *Research and Practice for Persons with Severe Disabilities*, 30, 60-80. [8, 9, 10, 11, 12, 13]
- French, N.K., & Chopra, R. (1999). Parent perspectives on the roles of paraprofessionals. *Journal of the Association for Persons with Severe Handicaps*, 24, 259-272. [17]
- Giangreco, M. F. (2020). "How can a student with severe disabilities be in a fifth-grade class when he can't do fifth-grade level work?" Misapplying the least restrictive environment. *Research and Practice for Persons with Severe Disabilities*, 45(1), 23-27. https://doi.org/10.1177/1540796919892733 [5, 9]
- Giangreco, M.F. (2001). Interactions among program, placement, and services in educational planning for students with disabilities. *Mental Retardation*, 39, 341-350. [5]
- Giangreco, M. F. (2021). Maslow's hammer: Teacher assistant research and inclusive practices at a crossroads. *European Journal of Special Needs Education*, 36(2), 278-293. https://doi.org/10.1080/08856257.2021.1901377 [14, 15]
- Giangreco, M.F. (2003). Working with paraprofessionals. *Educational Leadership*, 61(2), 50-53. [8, 9, 10, 11, 12, 13, 14, 17]
- 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(1), 10-26. [8, 9, 10, 11, 12, 13, 14, 15, 16, 17]

- Giangreco, M.F., Broer, S.M., & Edelman, S.W. (2001). Teacher engagement with students with disabilities: Differences between paraprofessional service delivery models. *Journal of Association for Persons with Severe Handicaps*, 26(2), 75-86. [21]
- 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*(1), 47-64. [17]
- Giangreco, M.F., Broer, S.M., & Edelman, S.W. (1999). The tip of the iceberg: Determining whether paraprofessional support is needed for students with disabilities in general education settings. *Journal of the Association for Persons with Severe Handicaps*, 24(4), 281-291. [14, 15]
- Giangreco, M. F., Broer, S. M., & Suter, J. C. (2011). Guidelines for selecting alternatives to overreliance on paraprofessionals: Field-testing in inclusion-oriented schools. *Remedial and Special Education*, 32(1), 22-38. https://doi.org/10.1177/0741932509355951 [14, 15]
- Giangreco, M.F. & Doyle, M.B. (2002). Students with disabilities and paraprofessional supports: Benefits, balance, and bandaids. *Focus on Exceptional Children*, 34(7), 1-12. [8, 9, 10, 11, 12, 13, 14, 15, 16, 17]
- Giangreco, M.F., Doyle, M.B., & Suter, J.C. (2012). Constructively responding to requests for paraprofessionals: We keep asking the wrong questions. *Remedial and Special Education*, 33(6), 362-373. https://doi.org/10.1177/0741932511413472 [14, 15]
- Giangreco, M.F., Edelman, S.W., & Broer, S.M. (2001). Respect, appreciation, and acknowledgement of paraprofessionals who support students with disabilities. *Exceptional Children*, 67, 485-498. [17]
- 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*, 45-63. [8, 9, 10, 11, 12, 13, 14, 15, 16, 17]
- Giangreco, M.F., Edelman, S, Luiselli, T.E., & MacFarland, S.Z. (1997). Helping or hovering? Effects of instructional assistant proximity on students with disabilities. *Exceptional Children*, *64*(1), 7-18. [15, 21]
- 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(3), . [8-15, 21]
- Giangreco, M. F., Suter, J. C., Hurley, S. M. (2013). Revisiting personnel utilization in inclusion-oriented schools. *Journal of Special Education*, 47(2), 121-131. doi: 10.1177/0022466911419015 [8, 9, 10, 11, 12, 24]
- Giangreco, M.F., Yuan, S., McKenzie, B., Cameron, P., & Fialka, J. (2005). "Be careful what you wish for...": Five reasons to be concerned about the assignment of individual paraprofessionals. *Teaching Exceptional Children*, 37(5), 28-34. [22]
- Giangreco, M.F., Halvorsen, A., Doyle, M.B., & Broer, S.M. (2004). Alternatives to overreliance on paraprofessionals in inclusive schools. *Journal of Special Education Leadership*, 17(2), 82-90. [14, 22]
- Girty v. School District of Valley Grove, 163 F. Supp. 2nd 527 (W.D.Pa., 2001). [5]
- Holler, R.A. & Zirkel, P.A. (2008). Section 504 and public schools: A national survey concerning "Section 504-only" students. *NASSP Bulletin*, 92, 19-43. [3]
- Kennedy, M.M. (1999). Approximations to indicators of student outcomes. *Educational Evaluation and Policy Analysis*, 21, 345-363. [21]

- Kozleski, E., Mainzer, R., & Deshler, D. (2000). Bright futures for exceptional learners: An action agenda to achieve quality conditions for teaching and learning. *Teaching Exceptional Children*, 32, 56-69. [8, 9, 10, 11, 12]
- Linn-Mar Community School District, 41 IDELR 24 (SEA IA 2004). [15]
- 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 behavioral disorders. *Journal of Research in Childhood Education*, 20, 301-312. [17]
- Marks, S.U., Schrader, C., & Levine, M. (1999). Paraeducator experiences in inclusive settings: Helping, hovering, or holding their own? *Exceptional Children*, 65, 315-328. [14, 15, 17]
- 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, 363-77. [17]
- Minondo, S., Meyer, L.H., & Xin, J.F. (2001). The roles and responsibilities of teaching assistants in inclusive education: What's appropriate. *Journal of the Association for Persons with Severe Handicaps*, 26, 114-119. [17]
- Pickett, A. L., Likins, M., & Wallace, T. (2003). *The employment and preparation of paraeducators*. New York: National Resource Center for Paraprofessionals. <a href="http://www.nrcpara.org/resources/stateoftheart/index.php">http://www.nrcpara.org/resources/stateoftheart/index.php</a> [14]
- 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. [8, 9, 10, 11, 12]
- Suter, J. C., Giangreco, M. F., & Bruhl, S. A. D. (2020). Special education personnel absences in inclusion-oriented schools: Implications for building effective service delivery models. *Remedial and Special Education*, 41(6), 341-351. https://doi.org/10.1177/0741932519865617 [8, 9, 10, 11, 12]
- U.S. Department of Education, National Center for Education Statistics (2021). *The Condition of Education* 2021. <a href="https://nces.ed.gov/programs/coe/">https://nces.ed.gov/programs/coe/</a> [2]
- U.S. Department of Education. (2020). *IDEA Section 618 Data Products* [Data set]. <a href="http://www2.ed.gov/programs/osepidea/618-data/">http://www2.ed.gov/programs/osepidea/618-data/</a> [5, 13, 14]
- U.S. Department of Education, Office for Civil Rights. (2021) 2017-2018 State and National Estimations [Data set]. <a href="http://ocrdata.ed.gov">http://ocrdata.ed.gov</a> [3]
- Vermont Agency of Education. (2021). Vermont Education Dashboard: Student Characteristics [Data set]. [2, 3, 4]
- Vermont Department Education (2005). *Estimated FTE of Aides Employed for K-12 Special Education* (raw data). Montpelier: Author. [14]
- Wallace, T., Shin, J., Bartholomay, T., & Stahl, B. (2001). Knowledge and skills for teachers supervising the work of paraprofessionals. *Exceptional Children*, 67, 520-533. [13]
- Wang. M.C., & Finn, J.D. (2000). *How small classes help teachers do their best*. Philadelphia: Temple University Center for Research in Human Development and Education and the U.S. Department of Education. [1]

## Interpreting the Data and Acknowledging its Limitations

The purpose of the *Numbers that Count!* data is provide an initial glimpse into a subset of schooling practices and demographics in an effort to illuminate issues that can lead to constructive dialogue within the school community in an effort to improve educational opportunities and outcomes for students. Therefore, they should be used as springboard for reflection and potential action and not viewed as a final word.

The data provided in the *Numbers that Count! Data Grid* are subject to many of the same limitations as any data, regardless of whether it is quantitative or qualitative. So as you consider the finding please keep the following limitations in mind:

- 1. Like all data, these data are partial (we only collected data on a subset of issues) and bound by context. Therefore, they should not be considered comprehensive and should be considered in context.
- 2. Data were collected from a small sample of special educators, about a small set of interrelated issues, at a single point in time.
- 3. Errors can sometimes occur in the raw data submitted by respondents for a variety of reasons (e.g., simple recording mistakes, misinterpretation of questions, idiosyncratic interpretation of questions, imprecisely worded questions on a questionnaire). So it is possible (maybe even likely) that some of these errors exist in these data. Therefore, if any numbers seem substantially out of kilter, it is advisable to not rush to judgment on their meaning and consider them in light of other findings and what is known about the context.
- 4. Through this process, we found that even seemingly simple issues (e.g., special educator caseloads) are never as simple as they might seem (e.g., SLPs functioning as special educators, special educators sharing caseloads, special educators not working directly with students they case manage and/or working directly with students they don't case manage). Therefore, even though the numbers are presented distinctly, some may be "fuzzier" than others because of the nuances that exist across and within schools. That is one reason why we have chosen to offer face-to-face debriefing.

Despite the inherent limitations in these data, they offer a variety of interesting and important information that can be utilized to improve opportunities and outcomes for students with disabilities and there peers without disabilities.

We hope you find these data helpful in your school improvement process,

- Michael F. Giangreco & Jesse C. Suter

# Numbers that Count! Your Numbers, What they Might Mean, and What Your School Can do About it

School Name:	Winooski High School	Grades Reported on:	9	to 12
Data Collection Date:	Oct 4, 2021	Total School Population:	218	students
Debrief Date:	Nov 17, 2021	Number (%) of Minority Students:	124	56.9%
Data Collected &	Michael F. Giangreco &	Number (%) Students on Free/		
Analyzed by:	Jesse C. Suter (CDCI / UVM)	Reduced Lunch:	137	62.8%
School Setting:	Urban	Number (%) of Students English		
*Number of Special	6 *Note: Only Special Educators with	Language Learners (ELL):	92	42.2%
Educators Reported on:	6 0.40 FTE or higher were included.	Name have (0%) of Charles From		
Number of Students w/1:1	0.40 FIL of higher were included.	Number (%) of Students From		
Supports Reported on:	9	Other Schools in District:	2	0.6%

*Aim of the Activity:* To collect data about special education service delivery that can help inform school improvement. *Steps Involved:* 

- 1. Collect data using the *School Demographic Questionnaire* from a school administrator.
- 2. Collect data using the *Special Educator Questionnaire* from all special educators in the school.
- 3. Collect data using the *Student Questionnaire* from those special educators who have students with full-time, one-to-one, paraprofessional supports in general education classes (one for each such student).
- 4. Summarize data and insert into appropriate spaces provided below.
- 5. Convene a team to review and consider the level of concern (see key below) corresponding to each piece of data.
- 6. Consider potential actions your school can take to improve service delivery to students with and without disabilities.

## Numbers that Count! Data Grid

\*Generic information, not specific to your setting. \*\*Key: N = None L = Low M = Moderate H = High

#	Youi	· School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
1a			rage Cla			Small class size (e.g., 1:15), especially in the lower grades is positively correlated with		•	Reduce class size Co-teaching
		(Ger	ieral Edu	cation)		student achievement, participation, and			(general and
			M = 1	5		improved behavior. Vermont's School Quality			special
			_,			Standards suggest that classes K-3, should			educators)
						average fewer than 20 students, and in grades		•	Distribute
						4-8 average fewer than 25. At the high school			students with
						levels total rolls should not exceed 100 in			disabilities to
1b	Ave	rage Gra	ade Ran	ge Cove	red by	English/Language Arts or average above 150			ensure natural
	1110	_	cial Edu	_	ica by	in other subject areas (both total would be divided by the number of class sections to			proportions Reduce the range
		<i>3</i> pe	Ciai Edu	cators		determine average class size).			of grades and/or
	n	M	SD	Low	High	Regardless of class size, if the percentage of			subjects for
	6	4.3	0.8		6	students with disabilities substantially exceeds			which special
	6	4.3	0.8	4	6	the "natural proportion" (the percent of			educators are
						students with disabilities in the school), various			responsible.
						problems may arise (e.g., difficulty meeting			1
						instructional needs, behavior management,			
						planning time).			
						When special educators are responsible for			
						students across multiple grades this increases			
						the number of general education teachers they			
						need to collaborate with and creates a wider			
						range of curriculum for which they must be			
						knowledgeable.			

Numbers that Count! Winooski High School Page 2

#	Your School's Num	bers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
2	Number (%) of Standard Manager	n       65       47       18       5	% 29.8% 72.3% 27.7% 7.7%*	In Vermont, students with disabilities on IEPs was approximately 15% and 14% nationwide (2019-2020). Since these are averages, the actual percentages vary from school to school and there may be reasons why an individual school's percentage of students with disabilities on IEPs varies from the averages. In other cases, particularly high numbers of students with disabilities on IEPs may signal systemic problems such as over-identification of students, problems with referral and/or eligibility practices and procedures, or problems with schoolwide programs and services designed to meet student needs without necessitating referral to special education.		Scrutinize special education eligibility procedures     Improve supports schoolwide and increase capacity of general education to reduce reliance on special education
3	Number (%) of Stud  Total At School Off-Campus	ents on 5  n 8 8 0	04 Plans    %     3.7%     100.0%     0.0%	In Vermont schools, the percentage of students with disabilities on 504 Plans is approximately 5.5%, and 2.7% nationwide (2017-2018). Since these are averages, the actual percentages vary from school to school and there may be reasons why an individual school's percentage of students with disabilities on 504 plans varies from the averages. In other cases, particularly high or low numbers of students with disabilities on 504 may signal under or overutilization of this option, especially when considered in relationship to the number of students on IEPs and those considered "at risk" who are being served on Educational Support Team (EST) plans		Scrutinize 504     eligibility     procedures

	Your School's Nu	mbers that	t Count		Level of Concern** N-L-M-H		Potential Actions*
4	Number (%) of St Receiving Supp			In Vermont schools, the percentage of students (without disabilities) who are on Educational Support Team (EST) plans is over 6% (2020). There are no comparable national data. Since these are averages, the actual percentages vary from school to school and there may be reasons why an individual school's % of students without disabilities on EST plans varies from the averages (e.g., poverty). In other cases, particularly high or low numbers of students without disabilities on EST plans may signal under or over-utilization of this option,			Scrutinize EST / "at risk" supports and services
	Total At School Off-Campus	20 20 0	9.2% 100.0% 0.0%			•	Improve supports schoolwide in an effort to reduce the number of students "at risk"
5	5 Number (%) of Students with Disabilities (on IEPs) whose Prima Educational Placement is in General Education		Primary	especially when considered in relationship to the number of students on IEPs and 504 plans.  In Vermont schools, the percentage of students with disabilities on IEPs who have their primary placement (at least 80% of the time) in general education classes with supports is approximately 79% (2020), down from a		•	Scrutinize initial and annual placement procedures to ensure that each
	In general ed 80% or more In general ed less than 80%	<i>n</i> 34 31	% 52.3% 47.7%	historic high of 88% (1992); State Performance Plan target was 79%, and approximately 65% nationwide. The percentages vary quite substantially based on disability category, with students who have high-incidence disabilities (e.g., speech/language impairments, learning disabilities) being included at substantially higher rates than those with lower-incidence disabilities (e.g., intellectual disabilities, multiple disabilities, emotional disturbance).		•	year each student is considered for regular class placement with supplemental supports and aids. Explore teacher attitudes and conceptualization
				Any time students are not afforded supported access to the general education classroom and			of regular class

#	Your School's Numbers that Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
		curriculum, it warrants close scrutiny to ensure that students' educational rights are protected and they have full access to quality education. Placement of students with disabilities in more restrictive settings (e.g., special class, special school) raises potential questions about: (a) the annual procedures used to determine placement in the LRE (least restrictive environment), (b) attitudes and expectations about including the full range of students with disabilities, (c) potential misapplication of IDEA LRE provisions, or (d) knowledge and skills about how to successfully include the full range of students with disabilities in general education settings. Students need not function at the same level as their classmates for the regular class to be the LRE.		placement to ensure that all faculty understand how students with a full range of disabilities and levels of severity can be meaningfully included in regular class (even when they are pursuing different learning outcomes.
6	Number of Students with Disabilities (on IEPs) in non-residential placements outside of your school $n = 18 \qquad \% = 27.7\%$	Any time students with disabilities are placed outside of your school district, it warrants close scrutiny to ensure appropriateness for the student. Further it raises potential questions about whether there is a sufficient continuum of supports within the district.		Put in place (or strengthen) supports to avoid out of district placements.
7	Number of Students with Disabilities (on IEPs) in residential placements $n = 0 \qquad \qquad \% = 0.0\%$	Since residential placements are among the most restrictive placements, they always require close scrutiny to ensure appropriateness for the student. Further it raises potential questions about whether there is a sufficient continuum of supports within the district.		Explore supports that could be put in place or strengthened to avoid residential placements.

#	Your School's Numbers that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
	Number of Special Educators  Number of Special Educators  Special Educator (SPED) FTE  SPED FTE for on-campus students  SPED FTE for off-campus students  Number of Speech Language Pathologists (SLP) serving as Special Educators  SLP serving as SPED FTE  Combined SPED FTE  Combined SPED FTE  Combined SPED FTE at school  Ratio of Combined Special Ed FTE to Students on IEPs (at school)  Ratio of Combined Special Ed FTE to the Total School Popul (at school)	& FTE  6 5.14  4.50  0.64  0 0.00 5.14  4.50  ucator  chool)	The number of special educators in the school is one of the most important numbers to consider when supporting students on IEPs, not just the number of actual people, but the amount of their FTE dedicated toward students on IEPs (since some people may be part-time or have split assignments, such with Title I or 504). Although examining the ratio of special educator FTE to students on IEPs is important, the simple ratio can be misleading because it doesn't address the range of caseload sizes and doesn't account for the varying percentage of students with disabilities in a school. Therefore, when tracking a school or district's special education service delivery from year to year, it can be helpful to compare the amount of special education FTE to the total school population; this ratio will account for changes in school population growth or decline and changes in the percentage of students identified as having a disability. One study (Suter & Giangreco, 2009) considered this ratio "special educator school density." Subjective reports indicated "the lower the ratio the more these schools could absorb the fluctuations that are a routine aspect of public schooling (e.g., the enrollment of a new student with intensive special needs)." Schools with ratios from 1:50 to 1:79 reported they had the resources they needed; from 1:80 to 1:100 responses were		•	Compare amount of special education time on IEPs with amount of assigned special educator time (account for direct, indirect, and consultative time). Allocate special education resources based on ratio of combined special educator FTE to total school population (8c) rather than only number of students on IEPs. Reduce special educator caseload size.
	1: 42.4		mixed; and schools higher than			

	You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
9a	Ave	rage Spe	pplied by ecial Edu of Stude	icator Ca		1:100 were more consistently challenged. When special educator caseloads are high, it is one of the key contributors to special educators leaving the field, experiencing "burnout", so simply diminishing their ability to do their		•	Consider adding special educators through resource reallocation (e.g., trading
	п 6	M 10.3	SD 4.0	Low 4	High 14	work. A recent study (Suter, Giangreco, & Bruhl, 2019) identified a relationship between special educator school density and absence			paraprofessional positions for special educator
9b	P	roviding	seload B <i>Primary</i>	IEP Ser	vices	rates of special educators. Students' education is disrupted by key personnel absences. Another study (Giangreco, Suter, Hurley, 2013)		•	positions). Reduce the range of grades and/or
	6	M 1.7	SD 3.6	Low 0	High 9	found that both special educator school density and a special educator's caseload were significantly related to their ratings of work			subjects for which special educators are
		Shar	ing IEP	Services		responsibilities being conducive to providing effective special education to students on IEPs			responsible. Explore reducing
	6 Pro	6.3 oviding F	5.8 Few Direc	0 ct IEP Se	13 rvices	(see item 24).  Although there is limited data on special educator caseloads, and no Vermont or federal			variability in special educator caseload size.
	6	2.3	3.2	0	8	regulations or guidelines, it is important to consider whether the special educator can		•	Explore regular education
9c	Stu		ith IEPs Official			reasonably and sufficiently address the specialized needs of the students on the caseload as reflected in the IEP. In addition to			supports for students on 504 or EST plans.
	n	М	SD	Low	High	the number of students, it is important to			
	6	5.3	5.9	0	12	consider the students' characteristics, whether the special educator is the primary provider of			
9d	Percei	_			struction	services or not, the range of grade levels and the number of teachers with whom a special			
	n	М	SD	Low	High	educator works.			
	6	37.5%	36.3%	0%	100%	When the number of students with special educational needs on one caseload exceeds 10			

Numbers that Count! Winooski High School Page 7

							Level of Concern** N-L-M-H	Potential Actions*
10a			ecial Edu Students			has suggested an inverse relationship between caseload size and instructional time.  Special educators with higher caseloads tend to provide a smaller amount of instructional time		See information on pages 6-7
	n	M	SD	Low	High	to their students; as the caseload size decreases the amount of instructional typically increases.		
	6	0.0	0.0	0	0	When the special educator has a higher		
10b			Caseloac Primary			caseload students with disabilities tend to get less instruction or receive their instruction from less qualified personnel (e.g.,		
						paraprofessionals). This is inconsistent with both the IDEA and ESSA efforts to ensure that		
	6	0.0	0.0	0	0	all students have ongoing access to instruction		
		Shar	ring 504 s	Services		from highly qualified teachers. It can also put schools at risk for due process complaints or		
	6	0.0	0.0	0	0	legal actions because it may violate the LRE		
	Pro	oviding I	Few Dire	ct 504 Se	rvices	provisions in IDEA.  More instruction in regular class allows		
	6	0.0	0.0	0	0	students to benefit from co-teaching between		
10c	St		on 504 St ot on Cas		d but	special educators and general educators, receive peer supports, and be more a part of the general classroom community.		
	n	М	SD	Low	High			
	6	0.0	0.0	0	0			

							Level of Concern** N-L-M-H	Potential Actions*
11a				ıcator Ca s on EST		See information on pages 6-7		See information on pages 6-7
	n	M	SD	Low	High 0			
11b				d Breakd EST Ser	lown			
	n	M	SD	Low	High			
	6	0.0	0.0	0	0			
		Shar	ing EST	Services				
	6	0.0	0.0	0	0			
	P	rovide Fe	w Direct	EST Ser	vices			
	6	0.0	0.0	0	0			
11c	St		on EST S ot on Cas	upporte seload	d but			
	n	М	SD	Low	High			
	6	0.0	0.0	0	0			

							Level of Concern** N-L-M-H	Potential Actions*
12a	Percei	ntage of	Time Wo	_	s Special	Item 12 provides a few alternatives to examining special educator caseloads. The first (12b) is the <i>full equivalent caseload</i> which is the		See information on pages 6-7
	n	M	SD	Low	High	number of students on IEPs special educators		
	6	85.7%	22.6%	50%	100%	would have if 100% of their time were directed toward students on IEPs.		
12b	I	Equivale IEPs ( <i>Cı</i>				The second (12c) is the average special educator caseload including students with		
	n	M	SD	Low	High	IEPs, 504 plans, and EST plans.		
	6	11.8	2.6	8	14	The third (12e) is the average number of		
12c	Act	ual Case	load (IE	P + 504	+ EST)	students supported by special educators (including both students on their caseloads plus).		
	n	M	SD	Low	High			
	6	10.3	4.0	4	14			
12d	Stude	ents Sup (IEI	ported N P + 504 +		Caseload			
	n	М	SD	Low	High			
	6	5.3	5.9	0	12			
12e		on &	udents S & off Cas P + 504 +	seload	ed			
	n	M	SD	Low	High			
	6	15.7	9.7	4	26			

							Level of Concern** N-L-M-H		Potential Actions*
13a	Suj (inform on the	pervised nation pr e parapro M 1.3	ofessional SD 1.5	ecial Edu y special ls they su Low 0	ucator educators upervise) High 4	The limited existing data suggests that when the ratio of special educators to special education paraprofessionals exceeds 1:2, the service delivery model may be unbalanced. In part the data suggest that when special educators have more than one or two paraprofessionals they have insufficient time to train/supervise/direct their activities. In a recent study where on average each special educator supervised 4 paraprofessionals, they	7, 2, 1, 2, 1, 2	•	Increase the number of special educators or reduce the number of parapros. Explore classroom teachers assuming
13b	Specia	l Educat	pecial Ed tion Para on provid 1: 1.6	profess	ional FTE	only spent about 2% of their time per paraprofessional. The maximum number of paraprofessionals supervised by a single special educator was 14 leaving insufficient time for supervision or instruction. This exacerbates the problems mentioned earlier, leaving too many paraprofessionals to fend for themselves. Based on federally reported data (2019 for students ages 6-21), Vermont is one of 6 states with a special educator FTE to special education paraprofessional FTE ratio higher than 1:2 (VT is 1: 2.4). In contrast, the US ratio was 1: 1.2, and 20 states have more special educator FTE than special education paraprofessional FTE. Though the averages can be illuminating, the range is critically important because the distribution of paraprofessionals per special educator can vary substantially.		•	primary or shared roles for supervising parapros. Explore redistribution of paraprofessionals (and students if necessary) among special educators to more evenly distribute paraprofessional supervision.

	Your School's Number	s that C	Count		Level of Concern** N-L-M-H		Potential Actions*
14a	Total Number (in Paraprofessionals	FTE) of At Scho	f ol 12.0	At present, there is no research on desirable numbers of general and special education paraprofessionals in schools. Data indicate that there has been a substantial increase in the numbers of paraprofessionals with ongoing growth. In 2019, there were 440,215 (FTE) special education paraprofessionals K-12		•	Explore service delivery to ensure that students with disabilities receive their primary instruction from
	Paraprofessional FTE  FTE assigned to generate education		4.0	nationally, and their use has substantially increased.  For example, in Vermont in 1990 there were fewer than 1,200 (FTE) special education		•	teachers and special educators. Explore opportunities to
	FTE assigned to speci education	al	7.0	paraprofessionals (K-12). By 2019, there were more than 2,800 (FTE). When adjusted for population increases and changes in child			have some paraprofessionals based funded by general
14b	Ratio (in FTE) of Speci Paraprofessionals to Stu (at school)	ıdents c		count, on average in 1990 there was approximately one special education paraprofessional for every nine students on an IEP; by 2019 there was an average of one special education paraprofessional for every four and one-half students on IEPs. Small-scale		•	education.  If the number of paraprofessionals or ratio of special education paraprofessionals
		Ratio	%Ss	studies suggest that Vermont's use of special education paraprofessionals may be among the			to students on IEPs is identified
	All students with IEPs Students with IEPs with 1:1 support	1:6.7	7.4%	highest in the nation. At the same time, data suggests that paraprofessionals' roles have become increasingly instructional, with some			as a concern, consider using the schoolwide planning process,
	Available to students with IEPs not receiving 1:1 support	1:12.4		students with disabilities getting more of their education from under qualified personnel.  Larger special educator caseloads typically provide insufficient time to plan for and direct			Guidelines for Selecting Alternatives to Overreliance on
7. 1	that Countl			the work of paraprofessionals, too often leaving paraprofessionals to make numerous curricular and instructional decisions.  Winocski High School			Paraprofessionals.

	Your School's Numbers	that C	Count		Level of Concern** N-L-M-H		Potential Actions*
15a	Subset of Special Ed Paraprofessional FTE (I Information supplied I	isted in	ı 14a) ol:	Over the past two decades there has been a substantial increase in the number of special education paraprofessionals assigned, one-to-one (full-time) to students with disabilities.  Although this type and level of support is		•	Re-assign full- time, one-to-one paraprofessionals as classroom paraprofessionals
15b	80% or more	1.5 its with nal Sup ition C	57.1% 42.9% a IEPs port lasses	undoubtedly offered with benevolent intentions, a series of studies have documented that this model of service delivery is fraught with numerous unintended detrimental effects (e.g., isolation from classroom activities and peers, stigmatization, provocation of behavior problems). Use of 1:1 paraprofessional support is one of the most restrictive supports than can be offered to a student and therefore should be closely scrutinized. Even in cases where students have extensive support needs, rarely do they need 1:1 paraprofessional support 100% of the time. The literature suggests that if the paraprofessionals are being used in place of instruction from teachers and special educators it is problematic. Use of 1:1 paraprofessionals has become a convenient, though often illadvised, first (and sometimes lone) option for supporting students with disabilities in general education classrooms. In addition, recent legal proceedings suggest that in some cases the use of 1:1 paraprofessional services without a plan for increasing student independence may be considered a violation of FAPE.		•	or consider a split funding FTE.  If student needs are low frequency or intermittent, consider using a paraprofessional pool (e.g., where a paraprofessional moves between situations on a prescheduled or as needed basis). Explore options for more instruction from teachers and special educators. Explore peer supports.

#	You	<sup>,</sup> School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
16a	Repo	orted) Av	ve. % of	me Use Time Sp Paperwo	ent on:	Please Note: Special Educators were asked to report on the percentage of time spent on these activities regardless of how many hours they devote to work. These percentages include any time spent working		•	Establish desired time use for special educators to take best
	n	М	SD	Low	High	outside of the regular school day. Therefore, these			advantage of
	6	6 20.5 10.3 10 40				percentages do not necessarily or exclusively reflect time spent during the school day and when students			their skills and knowledge; then
16b		Collabo	ration w	ith Other	'S	are present. Other forms of data collection are more			explore strategies
	6	6 13.5 13.2 5 40				appropriate for capturing what happens during the			to establish
		Delt-reien Comment				school day only (e.g., time study).			alignment between desired
16c		Bel	havior Su	pport		There are no agreed upon parameters for how			and actual time
	6	8.7	3.4	4	13	special educators should spend their time,			use.
16d	In	Instructional Time with Students				although in general more time in instruction is considered a strong proxy indicator of achievement. In addition, many special		•	Compare findings to data sources that
	6	29.2	20.1	0	50	educators report that they get their motivation			exclusively focus
16e			Plannin	18		and reinforcement from working directly with students and seeing them learn therefore the			on special educator time
	6	9.2	7.4	0	20	percentage of time spent in instruction is important to consider. The real question for a			use during the school day (e.g.,
16f	N	Vorking u	vith Para	professio	nals	school is "How do you want your special educators to be spending their time?" Do you			time study).
	6	5.3	4.1	0	10	want them doing paperwork and supervising			
16g		5.3 4.1 0 10  Working with Families				the work of multiple paraprofessionals? Or do you want them teaching students with disabilities and co-teaching with classroom			
	6	12.5 10.4 5 30				teachers?			
16h		Other							
1011	6	1.2	2.9	0	7				

#	You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
17a		al Educat		%of Tim	ported by e Spent:	Existing data suggests that special education paraprofessionals are expending an increasing portion of their time on instruction. Under some circumstances this may be positive,		•	Establish desired time use for special education paraprofessionals
	n 4	M 4.5	<i>SD</i> 6.1	Low 0	High 13	though much depends on whether the instruction they provide is primary or supplemental; in too many cases it is			to take best advantage of their skills and
17b		Supera	vision of	Students	: :	inappropriately the primary instruction. Whether the increase in instruction by			knowledge; then explore strategies
	4	17.5	23.6	0	50	paraprofessionals is desirable also depends on whether they are properly trained and			to establish alignment
17c	· .		ersonal (	i		otherwise qualified for the tasks they are being asked to perform. Existing data suggests that			between desired and actual time
17d	4	2.5 Bek	5.0 navior Su	nport:	10	many paraprofessionals are assigned to support students in classes where they report being under-skilled or unskilled. This becomes			use.
	4	20.0	28.3	0	60	increasingly problematic in the upper elementary grades, middle school, and high			
17e	Impl	ementing Teacher		tion Plan ıl Educat	U	school. As one study participant (paraprofessional) stated, "I don't do algebra."  The breakdown of paraprofessional time use is			
	4	44.3	44.4	7	100	designed to assist your school reflect on how you want paraprofessionals spending their			
17f		ging in Se ied or Su	2		ities, Not er/SPED	time. In some cases there is renewed interest in having paraprofessionals engage in non-instructional tasks that allow teachers and special educators to spend more time directly			
	4	1.3	2.5	0	5	teaching students with disabilities these non-			
17g			Other	•		instructional duties and supplemental instructional roles need to be clearly			
	4	10.0	20.0	0	40	established as highly valued role.			

	Your School's Numbers	that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
	Number of Students when Paraprofessional Suppor IDEA Disability Ca	t by P	rimary	Virtually no state or national data exist on the disability categories of students with disabilities who are receive full-time, one-to-one paraprofessional supports. Because the		This informational item can assist in understanding
	Disability	n	%	variability and severity with each category is substantial, these data offer only a modest		items 13 and 14 regarding
	Autism	3	33.3%	amount of information to consider (more detailed and relevant data are found in item		paraprofessional utilization and
	Deaf-Blindness	0	0.0%	20). In general, we suggest that you should		can highlight if
	Developmental Delay	0	0.0%	especially scrutinize situations where the disability category is most closely associated		any particular categories are
	Emotional Disturbance	0	0.0%	with students who have high-incidence/mild disabilities. For example, if you have students		unusually represented (e.g.,
	Hearing Impairment	0 0.0%	in categories such as learning disabilities (LD) it should be explored further. It is more		high incidence disabilities).	
	Intellectual Disability	3	33.3%	common (though not necessarily more		disus incres).
	Multiple Disabilities	3	33.3%	appropriate) for students in categories most closely associated with low-incidence/severe		
	Orthopedic Impairment	0	0.0%	disabilities (e.g., deaf-blindness, multiple disabilities) to receive one-to-one		
	Other Health Imp.	0	0.0%	paraprofessional supports. It should be noted that some schools have made a decision to		
	Specific Learning Dis.	0	0.0%	completely move away from the use of full- time one-to-one paraprofessionals because of		
	Speech/Language Imp.	0	0.0%	its known problems. In these cases students		
	Traumatic Brain Injury	0	0.0%	may receive such supports at specific times and for specific purposes (e.g., personal care		
	Visual Impairment	0	0.0%	supports).		
	Total	9	100.0%			

#	Your School's Numbers	s that (	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
19	Number of Students Paraprofessional Sup Participate in Alternate	pport W	Vho sment	Please note: We recommend exploring any discrepancies between special educators' response to this item and item 2.  Virtually no state or national data exist on the number of students who receive full-time one-		•	This item can assist in understanding items 13 and 14 regarding
	Students on Alternate Assessment	4	50.0%	to-one supports who also are eligible to participate in alternate assessment. Presumably there should be a substantial correlation between those students with severe enough			paraprofessional utilization and can highlight students who are
	Students not on Alternate Assessment	4	50.0%	disabilities to warrant alternate assessment			receiving full- time, one-to-one supports, but
	Total	8	100.0%	substantial number of students who are receiving one-to-one supports are not eligible for alternate assessment it may be of concern and one way to cross-check the level of need.			who are not eligible for alternate assessment.
	Type and Level of Disal Those Receiving Ful Paraprofessional S	l-Time	1:1	There are virtually no state or national data on the types and levels of disability among students who are receiving full-time, one-to- one paraprofessional supports. Given the		•	This informational item can assist in understanding
20a	Intellectual / Learning	n	%	inherent variability within the IDEA disability categories, having a better understanding of			items 13, 14 and 18, regarding
	None	0	0.0%	the types and levels of disabilities can assist your school as it reflects on which students are			paraprofessional utilization and
	Mild	0	0.0%	receiving full-time, one-to-one			can highlight if
			22.2%	paraprofessional supports and whether any	paraprofessional supports and whether any		any particular types or levels
	Severe 7 77.89			limprovement planning. Once you ascertain the l			are unusually
	Total	9	100.0%	characteristics and levels you can begin asking questions such as: (a) Do these students need paraprofessional supports all day? (b) What is			represented (e.g., mild disabilities).

#	Your School's Numbers	that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
				the paraprofessional doing when the student is		See information on
20b	Physical / Orthopedic	n	%	with the teacher, special educator, or a related services professional? (c) Are the duties being		page 17
	None	3	33.3%	fulfilled by the paraprofessional most		
	Mild	2	22.2%	appropriate for them to deliver, or are they better provided by a peer, teacher, or special		
	Moderate	2	22.2%	educator?		
	Severe	2	22.2%			
	Total	9	100.0%			
20c	Behavioral / Emotional	n	%			
	None	0	0.0%			
	Mild	1	11.1%			
	Moderate	3	33.3%			
	Severe	5	55.6%			
	Total	9	100.0%			
20d	Vision	n	%			
	None	6	66.7%			
	Mild	2	22.2%			
	Moderate	0	0.0%			
	Severe	1	11.1%			
	Total	9	100.0%			
			•			

#	Your School's Numbers	s that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H	Potential Actions*
200	Hearing Disability	n	%	See information on pages 17-18		See information on
20e	None	9	100.0%			page 17
	Mild	0	0.0%			
	Moderate	0	0.0%			
	Severe	0	0.0%			
	Total	9	100.0%			
20f	Health Disability	n	%			
	None	5	55.6%			
	Mild	1	11.1%			
	Moderate	2	22.2%			
	Severe	1	11.1%			
	Total	9	100.0%			

#	You	r School	's Numb	ers that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
21a	Avera	Stude Parapro	nts Rece	eiving 1: al Suppo		One of the most important aspects of successful inclusive environments is what has been referred to as "teacher engagement", namely the teacher's attitude of ownership for the education of the student with a disability in the regular classroom and the teacher's actions to be knowledgeable and involved in the design		•	Establish desired instructional time use for special educators, teachers, and paraprofessionals to take best
21b 21c	9 Sp. 9	M 26.7 ecial Edua 54.4 Pa 18.9	SD 31.9 cators / F 40.1 raprofess 29.8	10	High 80 ervices 100	and delivery of curriculum and instruction.  Existing data suggests that a substantial amount of primary instruction is provided paraprofessionals; there is little existing evidence that this approach is beneficial for students. A small number of studies have documented positive impact of paraprofessionals providing supplemental (not primary) instruction when they are appropriately trained and supervised in the implementation of researched-based approaches. Additionally, students with disabilities report feeling like outsiders in the		•	advantage of their respective skills and knowledge; then explore strategies to establish alignment between desired and actual instructional time use. Increase instructional by
						classroom and less valued when they do not receive their instruction from the classroom teacher. Excessive use of paraprofessionals to provide instruction potentially establishes a double standard that would not be acceptable if applied to students without disabilities.			teachers, special educators, and co-teaching.

#	Your School's Number	s that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
22	Number of Students W Team Members Have A Students to Have Fu Paraprofessional (as reported by Special  Team Member  General Education Administrator  Special Education Administrator  Classroom Teacher Special Educator  Parent or Guardian Student with a Disability  Other  n reported	Advoca ıll-Tim Suppo	nted for e 1:1 rt	There are virtually no data on this topic in the professional literature other than limited descriptions suggesting that in some cases parents advocate for one-to-one paraprofessional supports. This is often rooted in parental concerns that their child will be lost in the shuffle of the regular classroom and that their individual needs will not be met. At other times it is school personnel (e.g., teachers, principal) who require that a paraprofessional be assigned to a student in order for them to have access to the regular classroom (sometimes this is contrary to the wishes of the parent). Students themselves are rarely involved in these support service decisions, a fact that runs contrary to the current emphasis on self-determination as a best practice.	N-L-M-H	•	Share information with families and school personnel about both the pros and cons (e.g., inadvertent detrimental effects) of utilizing full-time, one-to-one paraprofessional supports. Ensure that use of full-time, one-to-one paraprofessional support is neither the first or only option considered to support students with disabilities in general education classes (e.g., use Guidelines for Selecting Alternatives to Overreliance on Paraprofessionals). Encourage self-
						•	determination by involving students in decisions about their own supports.

#	Your School's Number	s that	Count	What They Might Mean If They are Too High or Low*	Level of Concern** N-L-M-H		Potential Actions*
23	Primary Reasons Why S Recommended Paraprofessional S	for 1:1		There are virtually no data on this topic in the professional literature. Collecting data on the reasons why some students get assigned full-time, one-to-one paraprofessional support can assist schools in deciding: (a) whether the use		•	Consider use of paraprofessional pools or classroomassigned
	Reason	n	%	of a paraprofessional is a good match with the			paraprofessionals
	Safety of Student	8	88.9%	reasons; and/or (b) whether the reasons prompt consideration of other ways to meet			to address low frequency needs.
	Safety of Others	5	55.6%	students' needs more effectively using less		•	Consider use of
	Behavioral, Emotional, or Social Concerns (not safety issues)	9	100.0%	restrictive approaches.			generically available school personnel (e.g., school nurses,
	Physical, Health, or Personal Care	4	44.4%				guidance counselors). Consider
	Communication Support	5	55.6%				matches between personnel and functions to be
	Instructional / Learning Support	8	88.9%				served (e.g., if the function is
	Other	0	0.0%				instruction, who is best suited to
	n reported	9	100.0%				provide that
							support?).

#	Your School's Numbers that Count							What They Might Mean If They are Too High or Low*							(	Level of Concern** N-L-M-H		Potential Actions*
24	Special Educators' Agreement with:  My work responsibilities are conducive to providing effective special education to students served on IEPs.  (Rated on a scale of 1 to 10  1 = Strongly Disagree  10 = Strongly Agree)								This question was asked to gauge special educators' feelings toward their work responsibilities. Each school needs to decide whether the average is of concern or not for them. Asking special educators whether they feel their work conditions are conducive to providing effective services and supports can help schools (a) assess how special educators perceive their working conditions and (b) begin a conversation to address concerns and plan for						le or ey o an rs gin for			Identify subset of special educators with the most challenging caseloads Reduce caseload size Reduce range of classes and/or ages served Ensure no one
	<i>n</i> 6	7.0	1.8	I	5 Low	Hi 1	gh 0	sp	possible changes. One recent study found that special educator ratings on this item were significantly related to special educator school					·			special educator has too many students with	
	5							density and special educator's IEP caseload.  Educators' Ratings							•	intensive needs Reduce the number of paraprofessionals a special educator is expected to supervise/direct		
	Number of Special Educators														•	Consider limiting responsibilities for non IEP student		
			Number of	4		3	<i>A</i>	F	6	7			10			•	Meet with the special educators and seek their input about what would improve their working	
				1 trongi Disagre	gly		4	5 Rat	6 ing	7	8	9	10 Strongly Agree	, ,				conditions to better serve students

### References

## [Number following citations correspond with numbered data items]

- A.C. & M.C. v. Board of Education of the Chappaqua Central School, No. NYSD:6-CV-04238, U.S. Dist. (April 27, 2007). [15]
- Achilles, C.A. (1997). Small classes, big possibilities. (1997). The School Administrator, 54(9), 6-9, 12-13, 15. [1]
- Ashbaker, B.Y., & Morgan, J. (2004, Spring). Legal issues relating to school paraprofessionals. *A Legal Memorandum Quarterly Law Topics for School Leaders: National Association of Secondary School Principals*, 1-8. [8, 9, 10, 11, 12, 13]
- Broer, S.M., Doyle, M.B., & Giangreco, M.F. (2005). Perspectives of students with intellectual disabilities about their experiences with paraprofessional supports. *Exceptional Children*, 71(4), 415-430. [22]
- Brown, L., Farrington, K., Ziegler, M., Knight, T., & Ross, C. (1999). Fewer paraeducators and more teachers and therapists in educational programs for students with significant disabilities. *Journal of the Association for Persons with Severe Handicaps*, 24, 249-252. [8, 10, 11, 12, 14, 15]
- Causton-Theoharis, J.N., & Malmgren, K.W. (2005). Increasing peer interactions for students with severe disabilities via paraprofessional training. *Exceptional Children*, 71, 431-444. [14, 20]
- 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. [14, 17]
- Chopra, R. V., & Giangreco, M. F. (2019). Effective use of teacher assistants in inclusive classrooms. In M. Schuelka, C. Johnstone, G. Thomas, & A. Artiles (Eds.), *The SAGE Handbook on Inclusion and Diversity in Education* (pp. 193-207). Sage. http://dx.doi.org/10.4135/9781526470430.n18 [14, 15]
- Etscheidt, S. (2005). Paraprofessional services for students with disabilities: A legal analysis of issues. *Research and Practice for Persons with Severe Disabilities*, 30, 60-80. [8, 9, 10, 11, 12, 13]
- French, N.K., & Chopra, R. (1999). Parent perspectives on the roles of paraprofessionals. *Journal of the Association for Persons with Severe Handicaps*, 24, 259-272. [17]
- Giangreco, M. F. (2020). "How can a student with severe disabilities be in a fifth-grade class when he can't do fifth-grade level work?" Misapplying the least restrictive environment. *Research and Practice for Persons with Severe Disabilities*, 45(1), 23-27. https://doi.org/10.1177/1540796919892733 [5, 9]
- Giangreco, M.F. (2001). Interactions among program, placement, and services in educational planning for students with disabilities. *Mental Retardation*, 39, 341-350. [5]
- Giangreco, M. F. (2021). Maslow's hammer: Teacher assistant research and inclusive practices at a crossroads. *European Journal of Special Needs Education*, 36(2), 278-293. https://doi.org/10.1080/08856257.2021.1901377 [14, 15]
- Giangreco, M.F. (2003). Working with paraprofessionals. *Educational Leadership*, 61(2), 50-53. [8, 9, 10, 11, 12, 13, 14, 17]
- 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(1), 10-26. [8, 9, 10, 11, 12, 13, 14, 15, 16, 17]

- Giangreco, M.F., Broer, S.M., & Edelman, S.W. (2001). Teacher engagement with students with disabilities: Differences between paraprofessional service delivery models. *Journal of Association for Persons with Severe Handicaps*, 26(2), 75-86. [21]
- 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*(1), 47-64. [17]
- Giangreco, M.F., Broer, S.M., & Edelman, S.W. (1999). The tip of the iceberg: Determining whether paraprofessional support is needed for students with disabilities in general education settings. *Journal of the Association for Persons with Severe Handicaps*, 24(4), 281-291. [14, 15]
- Giangreco, M. F., Broer, S. M., & Suter, J. C. (2011). Guidelines for selecting alternatives to overreliance on paraprofessionals: Field-testing in inclusion-oriented schools. *Remedial and Special Education*, 32(1), 22-38. https://doi.org/10.1177/0741932509355951 [14, 15]
- Giangreco, M.F. & Doyle, M.B. (2002). Students with disabilities and paraprofessional supports: Benefits, balance, and bandaids. *Focus on Exceptional Children*, 34(7), 1-12. [8, 9, 10, 11, 12, 13, 14, 15, 16, 17]
- Giangreco, M.F., Doyle, M.B., & Suter, J.C. (2012). Constructively responding to requests for paraprofessionals: We keep asking the wrong questions. *Remedial and Special Education*, 33(6), 362-373. https://doi.org/10.1177/0741932511413472 [14, 15]
- Giangreco, M.F., Edelman, S.W., & Broer, S.M. (2001). Respect, appreciation, and acknowledgement of paraprofessionals who support students with disabilities. *Exceptional Children*, 67, 485-498. [17]
- 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*, 45-63. [8, 9, 10, 11, 12, 13, 14, 15, 16, 17]
- Giangreco, M.F., Edelman, S, Luiselli, T.E., & MacFarland, S.Z. (1997). Helping or hovering? Effects of instructional assistant proximity on students with disabilities. *Exceptional Children*, 64(1), 7-18. [15, 21]
- 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(3), . [8-15, 21]
- Giangreco, M. F., Suter, J. C., Hurley, S. M. (2013). Revisiting personnel utilization in inclusion-oriented schools. *Journal of Special Education*, 47(2), 121-131. doi: 10.1177/0022466911419015 [8, 9, 10, 11, 12, 24]
- Giangreco, M.F., Yuan, S., McKenzie, B., Cameron, P., & Fialka, J. (2005). "Be careful what you wish for...": Five reasons to be concerned about the assignment of individual paraprofessionals. *Teaching Exceptional Children*, 37(5), 28-34. [22]
- Giangreco, M.F., Halvorsen, A., Doyle, M.B., & Broer, S.M. (2004). Alternatives to overreliance on paraprofessionals in inclusive schools. *Journal of Special Education Leadership*, 17(2), 82-90. [14, 22]
- Girty v. School District of Valley Grove, 163 F. Supp. 2nd 527 (W.D.Pa., 2001). [5]
- Holler, R.A. & Zirkel, P.A. (2008). Section 504 and public schools: A national survey concerning "Section 504-only" students. *NASSP Bulletin*, 92, 19-43. [3]
- Kennedy, M.M. (1999). Approximations to indicators of student outcomes. *Educational Evaluation and Policy Analysis*, 21, 345-363. [21]

- Kozleski, E., Mainzer, R., & Deshler, D. (2000). Bright futures for exceptional learners: An action agenda to achieve quality conditions for teaching and learning. *Teaching Exceptional Children*, 32, 56-69. [8, 9, 10, 11, 12]
- Linn-Mar Community School District, 41 IDELR 24 (SEA IA 2004). [15]
- 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 behavioral disorders. *Journal of Research in Childhood Education*, 20, 301-312. [17]
- Marks, S.U., Schrader, C., & Levine, M. (1999). Paraeducator experiences in inclusive settings: Helping, hovering, or holding their own? *Exceptional Children*, 65, 315-328. [14, 15, 17]
- 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, 363-77. [17]
- Minondo, S., Meyer, L.H., & Xin, J.F. (2001). The roles and responsibilities of teaching assistants in inclusive education: What's appropriate. *Journal of the Association for Persons with Severe Handicaps*, 26, 114-119. [17]
- Pickett, A. L., Likins, M., & Wallace, T. (2003). *The employment and preparation of paraeducators*. New York: National Resource Center for Paraprofessionals. <a href="http://www.nrcpara.org/resources/stateoftheart/index.php">http://www.nrcpara.org/resources/stateoftheart/index.php</a> [14]
- 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. [8, 9, 10, 11, 12]
- Suter, J. C., Giangreco, M. F., & Bruhl, S. A. D. (2020). Special education personnel absences in inclusion-oriented schools: Implications for building effective service delivery models. *Remedial and Special Education*, 41(6), 341-351. https://doi.org/10.1177/0741932519865617 [8, 9, 10, 11, 12]
- U.S. Department of Education, National Center for Education Statistics (2021). *The Condition of Education* 2021. <a href="https://nces.ed.gov/programs/coe/">https://nces.ed.gov/programs/coe/</a> [2]
- U.S. Department of Education. (2020). *IDEA Section 618 Data Products* [Data set]. <a href="http://www2.ed.gov/programs/osepidea/618-data/">http://www2.ed.gov/programs/osepidea/618-data/</a> [5, 13, 14]
- U.S. Department of Education, Office for Civil Rights. (2021) 2017-2018 State and National Estimations [Data set]. <a href="http://ocrdata.ed.gov">http://ocrdata.ed.gov</a> [3]
- Vermont Agency of Education. (2021). Vermont Education Dashboard: Student Characteristics [Data set]. [2, 3, 4]
- Vermont Department Education (2005). Estimated FTE of Aides Employed for K-12 Special Education (raw data). Montpelier: Author. [14]
- Wallace, T., Shin, J., Bartholomay, T., & Stahl, B. (2001). Knowledge and skills for teachers supervising the work of paraprofessionals. *Exceptional Children*, 67, 520-533. [13]
- Wang. M.C., & Finn, J.D. (2000). *How small classes help teachers do their best*. Philadelphia: Temple University Center for Research in Human Development and Education and the U.S. Department of Education. [1]

## Interpreting the Data and Acknowledging its Limitations

The purpose of the *Numbers that Count!* data is provide an initial glimpse into a subset of schooling practices and demographics in an effort to illuminate issues that can lead to constructive dialogue within the school community in an effort to improve educational opportunities and outcomes for students. Therefore, they should be used as springboard for reflection and potential action and not viewed as a final word.

The data provided in the *Numbers that Count! Data Grid* are subject to many of the same limitations as any data, regardless of whether it is quantitative or qualitative. So as you consider the finding please keep the following limitations in mind:

- 1. Like all data, these data are partial (we only collected data on a subset of issues) and bound by context. Therefore, they should not be considered comprehensive and should be considered in context.
- 2. Data were collected from a small sample of special educators, about a small set of interrelated issues, at a single point in time.
- 3. Errors can sometimes occur in the raw data submitted by respondents for a variety of reasons (e.g., simple recording mistakes, misinterpretation of questions, idiosyncratic interpretation of questions, imprecisely worded questions on a questionnaire). So it is possible (maybe even likely) that some of these errors exist in these data. Therefore, if any numbers seem substantially out of kilter, it is advisable to not rush to judgment on their meaning and consider them in light of other findings and what is known about the context.
- 4. Through this process, we found that even seemingly simple issues (e.g., special educator caseloads) are never as simple as they might seem (e.g., SLPs functioning as special educators, special educators sharing caseloads, special educators not working directly with students they case manage and/or working directly with students they don't case manage). Therefore, even though the numbers are presented distinctly, some may be "fuzzier" than others because of the nuances that exist across and within schools. That is one reason why we have chosen to offer face-to-face debriefing.

Despite the inherent limitations in these data, they offer a variety of interesting and important information that can be utilized to improve opportunities and outcomes for students with disabilities and there peers without disabilities.

We hope you find these data helpful in your school improvement process,

- Michael F. Giangreco & Jesse C. Suter