

1. Demographic and personnel service delivery data: implications for including students with disabilities in Italian schools

International research on educating students with disabilities and other special educational needs has been dominated by studies evaluating a wide variety of curricular, instructional, and social/behavioral interventions to identify evidence-based practices meant to facilitate positive academic, functional and social outcomes. There has been substantially less attention devoted to school and classroom service delivery practices that allow such interventions to be effectively implemented under typical conditions, rather than conditions that rely on extra or atypical supports from researchers in school or nonschool settings (e.g., clinics). While some literature (Gersten, Keating, Yovanoff, & Harniss, 2001; Russ, Chiang, Rylance, & Bongers, 2001) has addressed important special education service delivery practices (e.g., special educator caseload issues), much of the available research has not: (a) focused on the unique contexts presented by inclusion-oriented schools, (b) explored a wide array of service delivery parameters, (c) examined the interrelationships among service delivery variables within and across schools, or (d) identified the service de-

educational needs to comment on the findings and offer their perspectives on their potential meaning and implications. We hope this opens a dialogue to facilitate international collaboration and extend our understanding about the roles service delivery data play in improving practices in inclusion-oriented schools in Italy, the US, and potentially other countries.

2. Similarities and differences between Italian and American Special Education

In the 1960s there was societal unrest in both Italy and the US; one manifestation was a groundswell of public concern and about segregated mental health and disability-related services. Grassroots efforts by parents, self-advocates, and their allies led to the deinstitutionalization movement as well as the passage of national education legislation in the 1970s designed to increase access to public schooling and regular class placement for students with the full range of disabilities. At that time, some school-aged children with more severe disabilities did not attend school and for those who did, special schools and classes dominated the educational landscape. In both countries only about 20% of students with disabilities attended regular classes (Vianello, 1996; Cornoldi, Terreni, Scruggs, & Mastropieri, 1998; US Department of Education, 2010b). Although the initial legislation in both countries provided a legal basis favoring regular class placement for students with disabilities, both also left open the possibility to educate students with severe disabilities in more segregated environments (Taylor, 1988; D'Alessio, 2011).

Over the past 40 years the two countries have taken different paths toward pursuing their common legislative intent, namely to provide appropriate education and more inclusive opportunities for students with disabilities. The Italian approach began with rapid initial placement of students with disabilities and other special educational needs in regular classes followed by incremental legislative and implementation adjustments over a period of many years. Passage of Law 118 in 1971 led to widespread national closure of nearly all the country's special education schools and special education classes in favor of

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By 2010 approximately 61% of students with disabilities nationally were in-

For example, recently Law 170/2010 was designed to ensure that general education teachers provide necessary accommodations for children such as those with dyslexia, dysgraphia, and dyscalculia. As a result of these socially constructed differences in disability definitions and special educational needs labeling, there are students with specific learning disabilities in US, some of whom spend the majority of their school day in special education classes, who if they lived in Italy would not be certified as “disabled” under Italian education law and would in regular class full-time. Similarly, the 98% of students with disabilities that Italy reports including in regular class all, most, or some of the time, are primarily students with more significant intellectual, physical, sensory or multiple disabilities that are included at markedly lower rates in the US.

There are undoubtedly many other differences between how Italy and the US provide educational supports for students with disabilities. Further, it is vital to recognize that educational placement data, even when favorable, do not provide any information about the quality of educational services being offered in either country and therefore should not be considered alone as a proxy for appropriate or quality education.

3. Research exploring service delivery in US inclusion-oriented schools

Over the past several years our team at the University of Vermont has initiated a line of research exploring school service delivery variables and practices with a particular focus on inclusion-oriented schools. Key findings about school service delivery have been gleaned from national US data sources (Giangreco, Hurley, & Suter, 2009), studies conducted in inclusion-oriented schools in Vermont (Giangreco & Broer, 2005; Giangreco, Smith, & Pinckney, 2006; Suter & Giangreco, 2009; Giangreco, Suter, & Hurley, 2011), and in inclusion-oriented schools across six states (i.e., California, Connecticut, Kansas, New Hampshire, Vermont, Wisconsin; Giangreco & Broer, 2007; Giangreco, Broer, & Suter, 2011).

Viewed together, these studies depict a wide range of service delivery practices from state to state and school to school. In the sample of inclusion-oriented schools, with primary regular class placement rates around 94% and class sizes generally in the low 20s (making them similar on these dimensions to many schools in Italy), a subset of findings are especially relevant. A key difference

some other kind of special need making them at-risk for educational problems or failure (e.g., substantial delays in literacy or numeracy); so the combined total of students with disabilities and some other special need was approximately 30% of a school's population.

These schools, on average, employed three to four times as many special education paraprofessionals (hereafter referred to as assistants) as special education teachers; in some cases many more. This is consistent with national trends indicating that US states that have higher regular class placement rates tend to employ proportionally more assistants. Regardless of how many assistants a school had per the number of students with disabilities (e.g., 1:3, 1:6, 1:10), school staff consistently reported feeling either just adequately staffed or understaffed; in part this suggests that there is no "right" ratio and that often what "feels right" is based on what school personnel are accustomed to.

In many schools, assigning more assistants has become the primary mechanism to support students with disabilities in regular classes with escalating requests for more. Although there are many skilled assistants who make valuable contributions, the research literature in the US and internationally has identified concerns that assistants have unclear and potentially inappropriate instructional roles, tend to be inadequately trained and supervised, and may actually pose obstacles to providing quality inclusive education and appropriate instructional supports (Giangreco, Doyle, & Suter, in press). A substantial percentage of assistants in these US schools, estimates ranging from 30% to over 50%, are assigned in a one-to-one format, a problematic approach because it can contribute to a wide variety of inadvertent detrimental effects (Giangreco, 2010).

The caseloads and practices of special education teachers in inclusion-oriented schools raise serious concerns about their opportunities to utilize the skills they have gained through their teacher preparation studies and ongoing professional development. The average number of students with disabilities served per special education teacher ranged from approximately 11 to nearly 17. Many special educators also had additional support responsibilities for other students with special needs (e.g., 3 to 6 students with delays in literacy and/or math) who did not qualify as disabled under US law. These special educators often have their time spread across several classrooms and grade levels, while on average they attempt to supervise three to four assistants. They tend to spend less time (under 40%) in instruction than both regular education teachers and assistants, and also provide a substantial amount of their instructional time (approximately 75%) with students with disabilities outside the regular classroom. Under these conditions they are only able to offer about 2% of their time

In addition to caseload numbers, one variable has been shown to have a significant relationship to the self-efficacy ratings of special education teachers in inclusion-oriented schools, namely the ratio of special education teachers in FTE (full-time equivalents) to total school enrollment; this is referred to as special educator school density (Suter & Giangreco, 2009; Giangreco, Suter, & Hurley, 2011). The range of special educator school density ranged widely, from 1:38 to 1:224, averaging around the 1:94 in Vermont schools and 1:111 in the six states listed earlier (Giangreco, Broer, & Suter, 2011). Two important findings have been discovered about special educator school density in the sample of inclusion-oriented schools studied. First, special educator school density shows an inverse correlational relationship with the percentage of students identified as disabled; as the percentage of students labeled disabled in a school rises, the special educator school density ratio decreases.

This explains why schools where special educators have approximately the same average caseload size can have substantially different special educator school density ratios. For example, the data set includes two schools that both have an average special educator caseload size of 11.5, but School A has a special educator school density ratio of 1:131 while School B's ratio is 1:69. This occurs because School A identifies 8.8% of its students as disabled, while School B identifies 18.5% as disabled. Interestingly, these two schools had a very similar combined percentage of students with disabilities or other special need, 26% and 28% respectively. Funding mechanisms that provide special educator resources to schools based on the number of students identified as disabled create an incentive to label students as disabled. Ironically, in these systems where resources are linked to disability labeling, schools that are able to appropriately serve students with special needs by strengthening their school-wide supports and avoiding disability labeling often lose resources. Underscoring the importance of this loss of resources, higher special educator school density has been correlated with lower self-efficacy ratings by special educators (Giangreco, Suter, & Hurley, 2011). A potential solution to this problem is to provide resources to schools based on total school enrollment numbers along with potential adjustments for likely contributors to student learning challenges (e.g., economic disadvantage, non-dominant language use). In other words, in schools that are inclusion-oriented, where it is known that all or nearly all their students with disabilities or special needs are expected to be in the regular classroom, we could consider basing availability of personnel resources on total enrollment rather than percentage identified as disabled.

In the present study, we collected data in Italian schools on a subset of the demographic variables from the US studies. The aforementioned US studies included three types of quantitative, descriptive data from: (a) a school demographic

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questionnaire, (b) a special educator questionnaire about their caseload and work responsibilities, and (c) a special educator questionnaire about their students who received ongoing one-to-one support from assistants (e.g., student characteristics, service provision). This initial study of Italian schools was li-

Although not reflected in the demographic data, other individuals we encountered during our travels further informed the questions we pose in the discussion section of this paper. These individuals included: (a) 81 students with certified disabilities we observed in the 16 schools and 2 agency sites we visited, (b) approximately 860 nondisabled students and 91 school personnel

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By summing or deriving ratios from the base variables we created five calcu-

patterns overall, especially when comparing the seven “Secondaria II” schools with the nine lower graded schools (see Tables 2 and 3). For example, the per-

Second, in five schools, the percentage of students with disabilities and those with special educational needs were virtually identical, within one-half of one percent. And third, the remaining four schools identified a higher percentage of their students as having special educational needs compared to those certified as disabled, the reverse of what might be expected in the general population.

Interestingly, four of five of these cases that had nearly identical percentages of students with disabilities and those with special educational needs were “Secondaria II” schools, and again they represented the outer ranges of the distribution on both the high and low ends. For example, the high school that identified 9.8% of students as disabled also identified an additional 10% of its students as having special educational needs. Conversely, the high school that identified 0.4% of its students as disabled only identified an additional 0.4% of its students as having special educational needs.

When one examines the combined percentage of students with special educational needs and disabilities (SEND; see Table 3), the average of 9.2% ($SD = 6.4$) may obscure the more interesting finding represented by the wide range from 0.7% to 22.2%; nine schools had a combined SEND percentage of approximately 7% or below while seven schools were over 10%. Again, Secondaria II schools populated both ends of the distribution.

On average, special education teachers (“*insegnante di sostegno*”) in FTE (full-time equivalents) were available to support approximately two students with certified disabilities ($M = 2.3$, $SD = 0.7$). This caseload size number of students with disabilities represented the most tightly clustered data point with the least variability among the schools, ranging from an average low of 1.3 to a high of 3.5. In addition, a strong and significant correlation was found between “*insegnante di sostegno*” FTE and the percentage of students with disabilities, $r(16) = .83$ $p < .001$. When the total SEND population (i.e., students with special educational needs and disabilities) is considered, on average there is one “*insegnante di sostegno*” FTE for approximately every six students ($M = 5.9$, $SD = 3.2$), with a wider distribution across schools, ranging from 2.5 to 13.

Beyond caseload numbers of students with certified disabilities or those with other special educational needs, another way to conceptualize the availability of “*insegnante di sostegno*” to serve an individual school is using a metric called *special educator school density* (i.e., the number of special educators/“*insegnante di sostegno*” in FTE in a school compared to the total student enrollment in the school). On average, this sample of schools had one “*insegnante di sostegno*” for approximately every 100 students enrolled in the schools ($M = 100.1$, $SD = 92.8$). This average is below the 1:138 ratio that until recently had been codified in law after first being included in Law 449/1997, with a later provision (Ministerial Circular 27/2003) that the school

principal could appoint more support teachers to face school needs (D'Alessio, 2008, p. 59).

Special educator school density ratios in this sample ranged quite dramatically, from approximately 1:14 a low ratio (very dense), to a high ratio (very lean) of approximately 1:342. Only two schools exceeded the 1:138 ratio, interestingly both again were Secondaria II schools and both were Liceo. In several of the schools the special educator school density varied substantially even though the average special educator caseloads, which varied by only one of two students on average, were quite similar. For example, Lombardia 1 and Veneto 6 reported nearly identical average special educator caseloads of students with disabilities, 2.6 and 2.7 respectively. Yet their special educator school density ratios differed vastly, 1:312 and 1:68.7 respectively. In part this may be explained by the differences in the percentage of students with certified disabilities in each school (i.e., Lombardia 1, 0.8%; Veneto 6, 3.9%). These schools closely followed the same pattern identified in the inclusion-oriented schools in the US, namely that there was a statistically significant inverse relationship between the percentage of students a school certifies as disabled and the special educator school density, $r(16) = -.69, p = .003$. In other words, schools that identify a lower percent of students as disabled tend to have a higher special educator school density, fewer special educators per capita to serve

disabilities, dyslexia, dysgraphia, reading or math delays, relatively minor speech/language difficulties) are not considered disabled. So what does it mean that the schools in this sample had an average of 3.8% of their students certified as disabled? Is this merely an insignificant artifact of the small sample size, or does it reflect a national trend toward higher rates of identification of students as disabled? If it is the later, are there are actually now more students with di-

Are they grouped in classes or schools with students who have disabilities in an effort to offer them support? If they are not in a class where an “*insegnante di sostegno*” is assigned, what supports are available to them? Are there different school or post-school (e.g., university, vocational) outcomes for students with special educational needs who are in classes where “*insegnante di sostegno*” supports are available because of the presence of a student with a disability versus when these same students are in classes where “*insegnante di sostegno*” services are not available to them? Ultimately, are more students getting labeled disabled in a benevolent attempt to provide them with access to otherwise unavailable supports?

6.2 Regular class placement

A couple of fundamental issues were raised by our simple data collection in reference to percent of time students with disabilities spend in the regular classroom. What constitutes 100% and what constitutes a regular class? It turns out these seemingly obvious questions are not quite as straightforward as they appear. Here are some ambiguous examples we encountered where respondents interpreted the same phenomena differently. Consider the example of a student with a severe disability who spends the first 25% of each typical school day at a local therapy center receiving specialized services (e.g., physiotherapy) before being transported to school. From the moment the student arrives at school midmorning she is in regular class with her nondisabled peers the entire time. What percent of time is she in regular class? Is it 75% because she is in class 75% of the time available to her classmates, or 100% because during the time she is at school she is in class the entire time?

None of the schools we visited had any designated special classes. Yet in some cases small groups of students, all with certified disabilities, were taught together for varying periods of time in separate rooms at school where no nondisabled peers were present or away from school (e.g., community recreation center). In other cases individual students were taught in a one-to-one format by either an “*insegnante di sostegno*” or assistant for varying periods of time in a separate room. Are these examples considered participation in regular class? If there are no designated special classes, is everything else considered regular class?

While there is no doubt that for decades Italy has been an international leader in providing access to regular class for students with disabilities as well students who would be considered disabled in other countries, the regular class inclusion statistics most commonly associated with Italy (e.g., 98% of students with disabilities in regular class) may not clearly represent what is happening in a way that can be consistently understood and readily compared across scho-

Is there any value to Italian students with disabilities, schools, or researchers in developing a more consistently applied operational definition of what constitutes regular class placement or inclusion rates? In our US-based research we have identified some modest discrepancies between what administrators and special education teachers reported about issues such as the extent to which particular students were included in regular class or taught by various personnel (e.g., teachers, special educators, assistants). This encourages us to collect data from multiple sources allowing for data triangulation and to explore the use of direct observational measures or other methods (e.g., student schedule review) to gain a more accurate understanding of regular class placement.

It is important to recognize that none of the aforementioned points address the qualitative issues of what happens in regular class or elsewhere. Some level of individualized or small group instruction outside the regular classroom may be appropriate for certain students, regardless of whether they have disabilities, special educational needs, or neither designation. When considering potential pull-out services or scrutinizing current ones, it is important to: (a) examine why the student is being pulled-out and for how long, (b) whether the support can be appropriately offered in the regular classroom, (c) whether the pull-out suggests needed changes in the structure or operation of the regular classroom, and (d) develop a plan to reintegrate students into the regular classroom as much as possible. Invariably, these considerations lead to qualitative questions about what is happening in the regular classroom. Are students with disabilities seated with their classmates participating in shared activities or they seated apart from their classmates with an “*insegnante di sostegno*” or assistant doing the same or different work? Do students with disabilities have appropriately adapted curriculum and instruction? Does the classroom teacher demonstrate shared ownership for the instruction of the student with a disability in the classroom? While these and other qualitative questions are beyond the scope of this study, it is vital to remain cognizant of the fact that while placement in a regular class is an important point of access, mere presence in the regular classroom does not ensure quality of curriculum, instruction, or supports necessary for a successful inclusive education (Giangreco, 2011).

6.3 Personnel utilization

A point of great interest to us during our time in Italian schools was the generally consistent practice of employing proportionally more “*insegnante di sostegno*” than assistants to support students with disabilities in general education classes. This practice, one we consider desirable, is the reverse of what is encountered in many inclusion-oriented schools in the US, where assistants substantially outnumber special education teachers. Our research has identified

the disproportionate utilization of assistants rather than more highly trained special educators as a major area of concern in inclusion-oriented US schools and a serious threat to equitable educational opportunities for students with disabilities (Giangreco, Broer, & Suter, 2011; Giangreco, Suter, & Hurley, 2011).

When American special educators, administrators, and parents hear that the average caseload size for an “*insegnante di sostegno*” in this sample is slightly over two students with disabilities, with minimal variability across schools, it would not be surprising if they immediately assumed that Italian schools have many more personnel resources than American schools, where double-digit caseloads are the norm in inclusion-oriented schools and the national caseload size for special educators in recent years have averaged around 15 (Giangreco, Hurley, & Suter, 2009). By using the calculated variable, special educator school density (i.e., ratio of special education teacher FTE to total school enrollment), we can see that on average inclusion-oriented schools in Vermont actually have slightly more special education teacher resources than the Italian schools in this sample. With a ratio of about 1:94, the Vermont schools have a slightly lower ratio than the average 1:100 ratio in this sample of Italian schools.

Although the descriptor, special educator school density, is not one used in the Italian context, it seems that the concept is one that has been considered, discussed, and applied in Italy at least since Law 449/1997 referred to a ratio of “*insegnante di sostegno*” to student population of 1:138. This ratio was not necessarily selected as a desirable ratio based on research, but was rather a number based on a national average of what existed in schools at the time the law was passed (Renzo Vianello, personal communication, October 2011). Our recent research suggests that special educator school density is significantly correlated with special educator self-efficacy ratings (Giangreco, Suter, & Hurley, 2011) and we find potential value in assigning special education teacher resources based on total school population, rather than exclusively based on the number of students identified as disabled -- this assumes a naturally occurring distribution of students with disabilities and other special educational needs. Variations in special educator school density may help explain perceived concerns expressed by Italian educators about the adequacy of resources to support inclusive placements of students with disabilities (Cornoldi *et al.*, 1998), especially in schools where the ratio substantially exceeds 1:100. Although cross-cultural comparisons are always fraught with complications (D'Alesio & Watkins, 2009), this ratio may allow for more accurate comparison of personnel utilization internationally, at least in countries that rely on some form of special education teacher role.

What do Italian researchers and practitioners think are the implications of the wide range of special educator school density ratios identified across schools

in this sample? How might the special education school density ratio variable be utilized by Italian schools ensure equitable access of “insegnante di sostegno” services for students with disabilities and those with other special educational needs? How do Italian researchers and practitioners interpret the similarities between the findings in the US and Italy that: (a) percent of students with disabilities and special educator school density are significantly negatively correlated, and (b) schools with very similar average caseload sizes for their “insegnante di sostegno” can have substantially different special educator school density ratios?

7. Conclusion

While inclusion-oriented schools around the world continue to advance their curricular and instructional practices, the service delivery parameters within which inclusive education is delivered remain vital to ensuring appropriate and quality schooling for students with and without disabilities. The variables presented in this study provide a set of foundational variables with the potential to impact practice and offer a starting point for international exchange and cooperation. More fully understanding the potential impact and importance of these service delivery variables is especially important during this era of global economic challenges.

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