INTERNATIONAL JOURNAL OF WHOLE SCHOOLING, Vol. 16, No. 2

Collaborative teaching in mainstream schools: Research with general education and support teachers

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To cite this article:

Ghedin, E., & Aquario, D. (2020). Collaborative teaching in mainstream schools: Research with general education and support teachers. *International Journal of Whole Schooling*, *16*(2), 1-34.

Abstract

This study investigates collaborative attitudes and practices in mainstream Italian schools. Research questions are the following: what kind of teachers' and students' collaboration occurs in inclusive settings? To what extent did significant differences exist among general education teachers and support education teachers? To what extent did training lead to deep-level collaboration practices? Two connected phases compose the research process. The first one is an exploratory phase, subdivided into two stages: four classes of a secondary school were observed through two different structured checklists aimed at obtaining a general exploratory view about teaching practices. In the second stage a survey on attitudes and cultures about collaboration has been implemented and 691 teachers were asked to express their viewpoints (on an *ideal* and *real* plane) regarding the co-teaching dimensions.

In the second phase, a group of teachers (20) was selected to be trained on co-planning, co-instructing and co-assessing dimensions of co-teaching (Murawski, 2003) and 2 pairs of teachers (control and target group) were video observed in their daily practices in the classroom. Data showed a *co-teaching paradox,* i.e., the contradiction which often exists between what a teacher believes is important at an ideal level, and what is actually deemed to be important on a plane of reality. Finally, teacher training programs have a responsibility for preparing GETs and STs for collaboration with a focus on strategies to reduce the gap between the ideal and the real situations, starting by reinforcing the ideal vision and supporting the identification of a useful repertoire of collaborative *good practices* for all in-service teachers.

Keywords: collaboration, attitudes, co-teaching, mainstream school, inclusion.

Introduction

This study investigates the collaborative teaching in relation to inclusive practices within the mainstream class. International (UN Convention, 2006) and national Italian laws and policies (517/77 L., 104/92 L., 66/2017 L. D.) support the practice of inclusive education for students with disabilities by promoting the development of inclusive schools where learning and participation are provided for *all* students. As a result, the number of students with disabilities in mainstream schools has increased and mainstream classrooms now include diverse student populations (Nind & Wearmouth, 2006; Winzer, 2009).

While historically general education and support teachers have been isolated and separated, collaboration is the standard in today's inclusive educational climates (Friend, Cook, Hurley-Chamberlain, Shamberger, 2010; Solis, Vaughn, Swanson, & McCulley, 2012). Teachers work together for the benefit of all students, including those with special learning needs and disabilities (Ainscow & Cesar, 2006; European Agency for Development in Special Needs Education [EADSNE], 2012; UNESCO, 1994). The Italian legislative and policy framework is characterised by a relatively high standard of protection of the right to education for pupils with disabilities (Troilo, 2016). In this context, co-teaching is a legal mandate (L. 104/92), and it is not a voluntary arrangement, wherein two adults work together to provide services for diverse learners in a coordinated fashion at the classroom level. Although teacher collaboration can be useful for improving inclusive education, collaboration does not work per se (Gebhardt, Schwab, Krammer & Gegenfurtner, 2015). Rather, a number of determinants are relevant for its success, a significant one is represented by the attitudes towards collaboration, that is, how well general education teachers and support teachers think their collaboration works, and what they do to make it possible. Studies investigating collaboration between general education and support teachers and its influence at the school levels in Italy are unfortunately limited and no insight in collaborative teachers' attitudes is available. In this

study, we present the case of Italy in order to examine teachers' collaboration attitudes and practices in inclusive classrooms in different school levels.

The value of collaboration in promoting co-teaching practices: A review of the literature

Teaching in inclusive classrooms can offer challenges for teachers and a way to deal with those challenges is through collaboration between general education teachers and support teachers (Kloo & Zigmond, 2008). Teachers need to be proficient collaborators in order to successfully perform their job. Not collaborating is no longer an option because different educational innovations push towards teacher collaboration (Truijen, Sleegers, Meelissen, & Nieuwenhuis, 2013). At the same time, education is often seen as an important context for students to acquire collaborative skills before they enter the labour market. Teacher collaboration plays an important role in transforming students into proficient future collaborators as teachers model cooperative learning for students by working together as a team. Teachers also reported using more innovative pedagogies (e.g., working in small groups) and displayed more job satisfaction and self-efficacy when collaborating (Hattie, 2015; Meirink, Imants, Meijer, & Verloop, 2010; OECD, 2014).

One of the foremost used ways to describe collaboration and the degree of collaboration between teachers was introduced by Little in the early 1990s (Krammer, Rossmann, Gastager & Gasteiger-Klicpera, 2018). According to Little (1990), the degree of dependence or interdependence between the teacher and his/her collaboration partner is the distinctive feature of the kind of collaboration. The hierarchical levels or degrees of collaboration are situated on a continuum ranging from independence to interdependence, from mere superficial to deep-level collaboration. Friend and Cook (1992) listed the defining characteristics of successful collaboration as follows:

i) collaboration is voluntary;

ii) collaboration requires parity among participants;

iii) collaboration is based on mutual goals;

iv) collaboration depends on shared responsibility for participation and decision making;

v) individuals who collaborate share their resources;

vi) individuals who collaborate share accountability for outcomes.

In order to foster teacher collaboration, certain conditions need to be fulfilled and researchers (Gebhardt et al., 2015; Vangrieken, Dochy, Raes, & Kyndt, 2015) note factors that can facilitate or hinder collaboration. Facilitating or hindering factors to collaboration are structural characteristics, such as time issues (e.g., individual and common planning time); staff continuity; physical structures or close proximity of facilities; and regulation possibilities of the team. Other factors include personal and group characteristics. Personal characteristics, attitudes and perceptions of the team members are considered as more important for team quality than structural characteristics.

Personal characteristics refers, for example, to: parity, personal compatibility and shared responsibilities for a series of classroom activities, for lesson planning and for assessment. Group characteristics include teaming skills, team size and tenure, a supportive atmosphere, leadership and group efficacy (James, Dunning, Connolly, & Elliott, 2007; Kelchtermans, 2006). The next category includes organisational characteristics of the school such as school governance structures and leadership. This is what could be called cultural "ethos" of the school, that can create an atmosphere of mutual trust and monitoring of collaboration so it will not lead to contrived collegiality (Vangrieken et al., 2015).

Teachers' attitudes toward collaboration

Teachers' roles have become more collaborative than in the past and the collaboration of general education and support teachers is one of the most important factors related to the

effectiveness of the education of pupils with special educational needs (Blanton & Pugach, 2007; Sledge & Pazey, 2013; Strogilos, Lacey, Xanthacou & Kaila, 2011). No longer do teachers work in isolation as they did just a few decades ago. For example, general educators now assume a more active role in developing individualized education plans (IEPs) by helping determine the appropriate accommodations and modifications students need to access the general education curriculum. Consequently, general educators and support educators now collaboratively discuss students' needs, solve problems, demonstrate instructional techniques, lead or participate in professional development initiatives, share resources, and network with other professionals and outside agencies. Further, both general and support educators must collaborate to meet accountability standards for students, design professional development plans, and address issues associated with teaching students from diverse cultural backgrounds (Dettmer, Thurston, Knackendoffel, & Dyck, 2009).

Collaborative teachers' practices are influenced by their attitudes and consequently, a large part of the success of collaborative practices depends on teachers' attitudes (Avramidis & Norwich, 2002). Understanding teachers' attitudes is critical to the development and success of collaborative teaching practices (Mora-Ruano, Gebhardt & Wittmann, 2018). Studies on teachers' collaboration have shown that teachers support collaboration as an educational delivery model (Graham, 2007). For example, Moliner, Sales, Ferrandez, and Traver (2011) showed that support teachers are more sensitive to diversity and more aware of inclusive pedagogic strategies. Other studies (Dieker & Murawski, 2003; Kilanowski-Press, Foote, & Rinaldo, 2010; Scruggs, Mastropieri, & McDuffie, 2007) concluded that support teachers mostly take 'a back seat' in teaching dyads. Their activity consisted mainly of assisting the general teachers providing support when needed, monitoring the implementation of specific modifications and accommodations in students' IEPs, providing supplements to enhance the content knowledge, behavioral management support, and expertise in the learning needs of students with disabilities.

In contrast, the general educator is an expert in his/her content area, is aware of the scope and sequence of the curriculum, has an objective view on academic and social development, and is also prepared to manage large group instruction. However, teachers remained concerned about a lack of training and uncertainty in relation to their roles (Graham, 2007). Researchers (Friend & Bursuck, 2012; Walther-Thomas, Korinek, McLaughlin, & Williams, 2000) have highlighted the negative factors influencing the collaborative relationship between general and special education teachers, including unclear responsibilities and roles, a lack of professional development opportunities and limited resources. Finally, across the literature, the overall conclusion is that the level of collaboration between general and special education teachers is low (Alharthi & Evans, 2017; Hwang, & Evans, 2010).

Co-teaching

Reflection about general education and support teachers' collaboration is developed here from a perspective of good inclusive practice which finds its best example in *co-teaching*. Co-teaching emerged in Canada and the United States of America over 20 years ago (e.g. Roth & Tobin, 2004) and its practice and research has now extended to include countries such as Australia, Ireland and Sweden (Murphy & Martin, 2015). Unlike other joint teaching practices, such as 'collaborative teaching' or 'team-teaching' (see Chanmugam & Gerlach, 2013), coteaching takes place when two or more teachers teach together, sharing responsibility for meeting student learning needs while simultaneously learning from each other (Murphy & Scantlebury, 2010). Villa, Thousand, and Nevin (2004) noted that co-teaching assumes teachers agree on a goal, share a common belief system, demonstrate parity, share leadership roles while completing tasks, and practice effective communication skills. These principles provide the foundation for creating a fulfilling, professional co-teaching relationship.

Co-teaching, for the purpose of this discussion, is understood as sharing co-planning, co-teaching and co-assessment between curricular and support teachers, working together in a

single classroom, and may be viewed as a mix between learning as well as practices (Opfer & Pedder, 2011). Co-teachers plan, teach and evaluate lessons together, working as collaborators on every aspect of instruction. A number of co-teaching variations have been identified (Friend et al., 2010; Scruggs et al., 2007). These variations include: *one teach, one assist* (or 'drift'), where one teacher (usually, the general education teacher) assumes teaching responsibilities and the special education teacher provides individual support as needed; *station teaching*, where various learning stations are created, and the co-teachers provide individual support at the different stations; *parallel teaching*, where teachers teach the same or similar content in different classroom groupings; *alternative teaching*, where one teacher may take a smaller group of students to a different location for a limited period of time for specialized instruction; and *team teaching* (or interactive teaching), where both co-teachers share teaching responsibilities equally and are equally involved in leading instructional activities. Many studies around the globe have documented positive gains for students (Bacharach, Heck, & Dahlberg, 2010), teachers (Badiali & Titus, 2010; Tobin & Roth, 2005) and schools (Friend et al., 2010; James et al., 2007) when participating in a co-teaching model.

When engaged in collaborative practices, schools undergo cultural changes, are more innovative and become characterized by a flattened power structure (Santiago Rincón-Gallardo, 2016). When teachers collaborate, the educational performance of students (in terms of collaborative learning) as well as the class climate and the opportunities for building communities are enhanced (Booth & Ainscow, 2011). Moreover, teachers appreciate the need for shared instructional planning and modifying the curriculum, as well as accepting the responsibilities of teaching all students in the classroom.

Teachers participate in the presentation of the lesson, provide instruction, and structure the learning activities. Classroom management also involves community building and relationship building. They co-develop systems for evaluating students learning, adjusting standards and expectations for performance to meet individual needs, while maintaining

course integrity (Gately & Gately, 2001; Rytivaara, 2012). Co-teaching can be a powerful model for empowering stakeholders to share responsibility for the teaching and learning processes that occur in the classroom.

Collaborative teaching in inclusive classrooms: The case of Italy

Since the 1970s, Italy has undertaken a process of *full inclusion* of children with disabilities in mainstream schools, implementing an anti-discriminatory educational policy, and abandoning segregated educational practices (Caldin, 2013; Cornoldi, Terreni, Scruggs, & Mastropieri, 1998; Ferri, 2017; OECD, 1999). Despite a progressive legal framework, however, numerous shortfalls have slowly emerged in the Italian school system and the Italian approach to inclusion is not without its challenges (D'Alessio, 2011; Kanter, Damiani & Ferri, 2014; Norwich, 2015). These reflections are even more interesting if we imagine that the law has made enormous steps forward in terms of guaranteeing an adequate body of legislation for inclusive policies and practices but does not bring about changes in attitudes and micro relations/collaborations. These challenges must be conquered at other levels by bringing about changes in attitudes and convictions, and through the development of relationships and friendships based on principles of equality. Teachers' attitudes towards inclusion are either positive or mixed (e.g. Canevaro & De Anna, 2010).

There are gaps in educational provision and a lack of continuity in the support provided by teachers in schools (Istituto Nazionale di Statistica [ISTAT], 2016) that is also due to the fact that roughly 30% of support teachers ask for redeployment as general education teachers five years after obtaining their qualification (Devecchi, Dettori, Doveston, Sedgwick, & Jament, 2012). The reasons behind requests of redeployment are various, but educational research highlights that working conditions of support teachers are often draining and collaboration with children, families, other teachers and other professionals is, in several cases, problematic (Ferri, 2017; Ianes, Demo, & Zambotti, 2014).

In the Italian context, several authors (Abbring & Meijer 1994; Associazione TreeLLLe, Caritas Italiana e Fondazione Agnelli, 2011; Canevaro, D'Alonzo, Ianes, & Caldin, 2011; Canevaro & De Anna, 2010; Monasta, 2000) have raised issues regarding the collaboration between support teachers and general education teachers (i.e. the general education teacher typically passes the teaching of students with disabilities completely on to the support teacher), the unwillingness to address specialized needs of students with disabilities in secondary education, the overemphasis on socialization and neglect of academic learning, and the lack of special materials and resources. These issues have raised serious questions about the quality of services received by students with disabilities mainly in the upper secondary school level.

It is important to underline that support teachers are frequently requested to take responsibility for physical and/or behavioral assistance, due to the lack of support personnel different from teachers (e.g. personal assistants). This confusion of roles lowers the quality of overall support (Anastasiou, Kauffman, & Di Nuovo, 2015).

Nonetheless, the Italian system, particularly, requires that teachers work collaboratively and co-teaching is essential in inclusive education at all school levels (Scruggs et al., 2007). Due to the inherent benefits and challenges collaboration among teaching staff is comprised of, it is of paramount importance to devote a great deal of attention to the state of collaboration in Italian schools, so the development and implementation of collaborative practices can be a reality that works for schools, teachers and students.

Research questions

Studies suggest that teachers' attitudes towards their roles and responsibilities in collaboration processes and variations by school levels should be taken into account. Moreover, little is known about differences in the attitudes and practices towards collaboration by general education and support teachers. Unfortunately, scientific data on the extent and

aspects of collaboration between general and special educators in Italy is limited. A few reports (Associazione TreeLLLe et al., 2011; Canevaro et al., 2011) highlight the lack of collaboration among general and special education teachers in a general manner. However, these reports neither thoroughly examined the nature of collaboration nor specify the constraints that obstruct such collaboration. Therefore, this study intends to provide some insights on the nature of collaboration in Italy and the constraints that are limiting it.

This study has two main aims. Given the importance of a 'collaborative atmosphere' in the classroom involving both teachers and students (Coke, 2005), the first aim is to explore how collaboration occurs in classrooms by observing teachers' and students' collaborative daily practices. Therefore, a first research question is: what kind of teachers' and students' collaboration occurs in inclusive settings?

A second aim is focused on cultures and attitudes towards collaboration. A survey has been used to address the second and the third research questions: To what extent did significant differences exist among GETs and STs? and among the four education levels? The first of these questions addresses whether collaborative attitudes and practices by general education teachers (GETs) and support teachers (STs) differ and the second one explores if there are differences in mainstreaming levels of education. Infact, only a handful of studies have investigated teacher' role differences. In the light of this apparent lack of research it is sensible to investigate mean differences among GETs and STs. Given the existing studies (Keefe, Moore & Duff, 2004; Mora-Ruano et al., 2018) and the additional fact that the emphasis for the preparation of the upper secondary school teachers lies more in the academic content of their areas rather than in inclusive pedagogical theory, upper secondary school teachers may collaborate significantly less than their peers in other educational school levels.

Lastly, since a very common theme across many investigations is the need for teacher training for co-teaching (Scruggs et al., 2007), it is expected that a training workshop about collaborative teaching practices would produce positive benefits regarding teaching

collaboration after the implementation of the training. The last research question is the following: To what extent did training lead to deep-level collaboration practices?

The relevance of the present study is twofold. First, it contributes to the empirical literature on this issue in Italy exploring teachers' practices and attitudes towards collaboration. Second, it offers a training proposal with the aim of improving teachers' collaborative skills providing evidence that this approach to training can improve the fidelity with which teachers implement co-teaching practices in classrooms. It is relevant since improving the performance of co-teachers should result in better student outcomes (Bacharach, Heck, & Dahlberg, 2010).

Method

Research design

The study is composed of two phases. The first one is an exploratory phase, subdivided into 2 steps.

Phase 1, Step 1. Observation of the classroom collaborative practices. In order to answer the first research question, four classes of a secondary school were observed through two different structured checklists aimed at obtaining a general exploratory view about teaching practices from teachers' and students' point of view. In particular, the observational schedule included the following types of behavior for teachers: instructional planning, instructional presentation, class management, assessment (Gately & Gately, 2001); and for students: class climate, building community, collaborative learning (Booth & Ainscow, 2011).

Phase 1, Step 2. Survey on attitudes about collaboration. Both GET and ST (n=691 from early childhood to upper secondary level) were asked to express their viewpoints regarding the co-teaching dimensions through the *Co-Teaching Rating Scale* (Gately & Gately, 2001). The results of the survey are specifically used to answer the second research question.

Phase 2. The second phase consisted of a workshop for lower secondary school teachers. Twenty teachers participated in three-months of training about the construct of collaboration and the co-teaching model. The training workshop used in this study was designed by the researchers on the basis of empirically-validated practices in professional development (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Faraclas, 2018). The workshop incorporates six elements of professional development training: sufficient duration (10 sessions over 12-week period), collective participation (multiple dyads trained together), content focus (training addresses the meaning of collaboration as well as specific instructional and assessment skills identified as necessary for effective collaborative teaching), coherence (congruence of the workshop with school/classroom goals and practices), active learning (opportunities to learn, discuss and work together exploring also documents and videos), and observation and feedback (opportunities to reflect through providing critical information). The content of the training included the following areas of co-teaching: planning, classroom management, instruction, and assessment. After the conclusion of the workshop, four teachers were randomly chosen: one pair as a control group (non-co-taught) and the other pair among the workshop' participants as the target group (co-taught) to be observed in their daily teaching practices.

Procedure

Approvals for using the observation checklists (both in step 1, Phase 1 and Phase 2) and survey instrument for data collection were obtained from the Principals of the involved schools. For the first step of the exploratory phase, a single school was contacted and the Principal consented for all the teachers to participate in the study. Eleven teachers gave their consent and were available to be observed in their daily practices. In order to support the reliability of the observational scores, two researchers shared and discussed together the meaning of all the checklist indicators prior to implementation and then used the structured

checklists independently assigning a score from 1 to 4 to each behavior. Then they met to compare their scores. Inter-rater agreement was calculated using Cohen's kappa coefficient.

In the second step of phase 1, 16 randomly chosen schools were contacted in order to ask about teachers' willingness to complete a questionnaire. Teachers' participation in the study was voluntary and completion of the survey indicated consent to participate in the study. The percentage of teachers who agreed to participate in the study was 62% of the entire teacher population (N=1114).

Participants and settings

Participants are presented in relation to each phase of this research. Participants of the Step 1 of the Phase 1 are four classes of a secondary school: 11 teachers of different subjects (2 Humanities, 1 History, 5 Music and Performing Arts, 3 Social Sciences) among which 7 general education teachers (GETs) and 4 support teachers (STs) and 65 students.

In Step 2 of the Phase 1, 691 teachers participated, among which 594 women and 97 men, of whom 325 (47%) were aged under 45. Most of the teachers (441; 63,8%) had been teaching for more than three years. As regards teaching roles, 539 were GETs, 152 STs.

In Phase 2 a group of 20 teachers of 3 secondary schools participated at a training workshop about collaborative teaching practices, among which 10 were GETs and 10 STs. Specifically about observation, 4 of them (2 GETs and 2 STs; 3 females and 1 male) were involved by audio and video recording their classroom practices for a total of 15 hours in two weeks after the conclusion of the workshop.

Instruments

Data have been collected by two instruments: a structured checklist and a closed-answer questionnaire. In the first step (phase 1) two versions of a structured checklist were developed. The *Student Checklist* dimensions (class climate, the collaborative learning

practices and the sense of the group as a community) were taken from the Index for Inclusion as a tool for exploring the schools' collaborative and inclusive development as those dimensions on which research showed impact of teacher collaboration (Meirink et al., 2010; OECD, 2014). The *Teacher Checklist* dimensions derive from the study by Gately and Gately (2001) and are used in order to investigate the teaching practice dimensions strictly related to the co-teaching practice: instructional planning, instructional presentation, classroom management, and assessment (Gately & Gately, 2001; Rytivaara, 2012). Indicators included in both checklists were coded on a 4-point scale (from never, 0 to always, 3). Inter-rater agreement between the two observers calculated by Cohen's kappa coefficient was 0.91 for the observation of teachers and 0.96 for the observation of students.

The questionnaire (phase 1, step 2) was translated (and later given to a small group to test its comprehensibility) from the *Co-teaching Rating Scale* (CtRS, Gately & Gately, 2001). Working with co-teachers over the past decade, the authors of the *Co-teaching Rating Scale* delineated eight components of the co-teaching classroom that contribute to the development of the collaborative learning environment. The questionnaire has two parts: Part A collects respondents' general data and Part B has 24 items. Each item is associated with two questions:

- To what extent does the statement describe your point of view? ('ideal' subscale)
- To what extent does the statement really describe the situation in your classroom? ('real' subscale).

Both responses were measured on a 3-point scale (from rarely to usually).

Each of the subscales contains 3 items organised into eight factors (for a total of 24 items): Interpersonal communication (i.e. *I can easily read the nonverbal cues of my co-teaching partner*; *Humor is often used in the classroom*), Physical arrangement (i.e. *There is fluid positioning of teachers in the classroom*; *I feel comfortable moving freely about the space in the co-taught classroom*), Familiarity with the curriculum (*I feel confident in my knowledge of the curriculum content*; *I understand the curriculum standards with respect to the content*

area in the co-taught classroom), Curriculum goals and modifications –flexibility (*Both teachers in the co-taught classroom agree on the goals of the co-taught classroom*; *Modifications of goals for students with special needs are incorporated into this class*), Instructional planning (*Planning for classes is the shared responsibility of both teachers*; *Planning can be spontaneous, with changes occurring during the instructional lesson*), Instructional presentation (*Students accept both teachers as equal partners in the learning*; *The chalk passes freely between the two teachers*), Classroom management (*Classroom rules and routines have been jointly developed*; *A variety of classroom management techniques are utilized to enhance learning of all students*), Assessment (*Many measures are used for grading students*; *Goals and objectives in IEPs are considered as part of the grading for students with special needs*). The overall reliability coefficient for the 48 items (α =.93) was within the acceptable range. The same applies for the 'ideal' subscale (α =.90) and the 'real' one (α =.92).

In the second phase, the instrument used for observing classroom practices was the *Co-teaching Rating Scale Profile* (CtRS Profile, Gately & Gately, 2001) which is based on the same 8 factors of the Co-teaching Rating Scale. The values from the CtRS are totaled by factor and plotted on the CtRS Profile through which it is possible to identify three developmental stages in the co-teaching process corresponding to varying degrees of interaction and collaboration between teachers: the beginning stage, the compromising stage, and the collaborative stage. Inter-rater agreement between the two observers calculated by Cohen's kappa coefficient was 0.89.

Data analysis

Data from the questionnaire were analysed using the Statistical Package for Social Sciences, SPSS 24.0. Descriptive statistics (i.e., frequencies, means and percentages) were computed to establish how teachers have expressed their agreement at both levels, ideal and

real, towards the same co-teaching dimensions. Normal distribution of the dependent variables was assessed through the Kolmogorov-Smirnov Test. The results revealed that data of the dependent variables are not normally distributed ($p < 0.05$). Consequently, differences between GETs and STs were analysed using the Mann-Whitney U test, while differences among school levels using Kruskal-Wallis U test.

The aim was to investigate if there were any differences in the participants' answers based on teacher role (GET and ST) and school level (early childhood, primary, lower and upper secondary). Cohen's d values were computed to estimate the effect sizes between GETs and STs (Table 4). Post-hoc tests were computed to estimate the differences among the four levels of education. Observation data were collected through the above-mentioned checklists and descriptive scores were computed in order to explore more (and less) frequently observed dimensions. Triangulation was used in this study to ensure validity as a method of cross-checking data, both a data triangulation (the use of more than one data source) and an observer one (the use of more than one observer to achieve intersubjective agreement) (Padgett, 2017).

Results

Phase 1, Step 1. Observation of collaborative classrooms practices

The first step of the research was an observatory one. The aim was that to specifically observe the collaborative practices in terms of the class climate, the collaborative learning practices and the sense of the group as a community (concerning students) and in terms of instructional planning and presentation, class management and assessment (about teachers).

Table 1 reports means of behavior occurrence concerning the observed dimensions. Teachers are mainly confident with *instructional planning* ($M = 3.43$, $SD = 0.48$), that is a shared planning of lessons, activities and tasks in a way to optimize reciprocal knowledge and competences; and *assessment* ($M = 3.33$, $SD = 0.41$), which includes the use of multiple means of learning assessments and the management and development of procedures. The

instructional presentation (*M* = 3.13, *SD* = 0.28) and the *management of the class* (*M* = 3.09, *SD* = 0.42) are two dimensions in which teachers seem to encounter some difficulties. This finding is in line with what emerges from the observation of the students. Indeed, *building community* (*M* = 2.71, *SD* = 0.62) is one of the most critical elements of the students' behavior and may depend on the difficulty of teachers in managing the class and in instructional presentation (as mentioned above). Students seem mainly confident with *collaborative learning* (*M* = 3.17, *SD* = 0.41) and *class climate* (*M* = 3.40, *SD* = 0.14).

Table 1.
Means of behavior occurrence concerning the observed dimensions

	Teachers (n=11) M (SD)	Students (n=65) *M (SD)*
Instructional planning	3.43 (0.48)	
Instructional presentation	3.13 (0.28)	
Class management	3.09 (0.42)	
Assessment	3.33 (0.41)	
Class climate		3.40 (0.14)
Building community		2.71 (0.62)
Collaborative learning		3.17 (0.41)

Observational analysis highlights that the teaching process starts with collaboration on *instructional planning* and *assessment* and involves learning how to negotiate and share the various roles existing between teachers who are needed in the classroom, as in the *instructional presentation*. But co-teaching also requires, for example, the acquisition of new roles which relate teachers to each other and to their students (*classroom management*). From this viewpoint, if it is to be flexible and successful, co-teaching requires new abilities. Observational data highlight the lack of a deep-level collaboration between teachers and it is associated with a lack of an effective collaboration atmosphere in the classroom for all

students. Instruction-focused and assessment-focused collaboration resulted as more helpful and extensive, while collaboration about student work and classroom management was less helpful and extensive.

Phase 1, Step 2. Survey on teachers' collaborative attitudes and practices

Participants in this part of the research were 691 teachers; 594 (86%) were women and 96 (13.9%) men. Table 2 indicates the characteristics of the teachers involved.

Table 2.
Characteristics as percentage of the teachers' group (N = 691) involved in Phase 1, Step 2.

Characteristic	n (%)
Gender	
Males	96 (13.9)
Females	594 (86)
Age	
< 45 years	325 (47)
>46 years	362 (52.4)
Teacher's role	
GETs	539 (78)
STs	152 (22)
School level	
Early childhood education	25 (3.6)
Primary school	393 (56.9)
Lower secondary school	227 (32.9)
Upper secondary school	46 (6.7)
Teachers' experience	
< 1 year	36 (5.2)
1-3 years	214 (31.0)
>3 years	441 (63.8)
Type of service	
Pre-service	55 (8)
In-service	636 (92)

Regarding teachers' experience, most of the teachers (441; 63.8%) had been teaching for more than three years. As regards qualifications, 539 (78%) were GETs, 152 (22%) were STs. Twenty-five (3.6%) taught at early childhood education level, 393 (56.9%) at primary level, 227 (32.9%) at lower secondary level, 46 (6.7%) at upper secondary level. The large part of the group was composed by in-service teachers (636; 92%).

An initial descriptive data analysis compared the means of responses to the CtRS on the two planes, *ideal* and *real*, for each dimension of the instrument. Table 3 shows data aggregated by dimension: for all the eight dimensions, the means of *ideal* responses were higher than those of *real* ones. The importance ideally attributed to co-teaching components was greater than that found in the everyday reality of the teaching situation.

Specifically, the aspects referred to instructional planning (M = 2.04, SD = 0.073) and presentation (M = 1.81, SD = 0.053) are those on which teachers mostly disagree. Although they recognize the importance of designing changes during lessons or planning as a common and shared responsibility for both teachers or interchanging the roles in lesson presentation as equal partners, they do not feel that these aspects describe the current situation in their daily practices.

Table 3.
Means of Responses (n = 691) on the Two Planes, Ideal and Real, for each Dimension of the Instrument

Variable	*M*	*SD*
Interpersonal communication		
Real	2.23	0.016
Ideal	2.61	0.050
Physical arrangement		
Real	2.27	0.025
Ideal	2.70	0.006
Familiarity with curriculum		
Real	2.34	0.007
Ideal	2.77	0.003
Curriculum goals and modifications		
Real	2.28	0.021
Ideal	2.82	0.003
Instructional planning		
Real	2.04	0.073
Ideal	2.72	0.006

Instructional presentation		
Real	1.81	0.053
Ideal	2.48	0.088
Classroom management		
Real	2.21	0.013
Ideal	2.80	0.002
Assessment		
Real	2.21	0.041
Ideal	2.65	0.052

Two variables (the school level in which teachers work, and teachers' role – GET & ST) have been examined to identify statistically significant differences in the eight dimensions. Analyses were conducted separately for responses on the *ideal* and *real* planes (Tables 4 and 5). Table 4 shows that there are statistically significant score differences between GETs and STs for *interpersonal communication*, *familiarity with the curriculum*, *curriculum goals and modifications*, *classroom management* and *assessment* at the ideal plane; while there are significant score difference for *interpersonal communication* and *curriculum goals and modifications* at the real plane.

Table 4.
Mean ± SD and z-values for variables of collaboration for GETs (n=539) and STs (n=152)

Variables	GETs (*n*=539)		STs (*n*=152)				
	M	*SD*	*M*	*SD*	*z*	*P*	*Cohen's d*
Interpersonal communication *Real*	6.63	1.58	6.09	1.65	-2.02	0.04*	-0.18
Physical arrangement *Real*	8.36	1.19	8.41	1.01	-0.5	0.96	-0.05
Familiarity with the curriculum *Real*	7.30	1.62	7.55	1.46	-1.53	0.12	-0.15
Curriculum Goals and modifications *Real*	8.07	1.29	8.39	.96	-2.77	0.01*	-0.26
Instructional planning *Real*	8.40	1.11	8.55	0.84	-1.42	0.16	-0.14
Instructional presentation *Real*	8.25	1.21	8.22	1.16	-0.22	0.83	0.02
Classroom management *Real*	8.01	1.28	8.17	1.08	-1.30	0.19	-0.13
Assessment *Real*	7.74	1.25	7.73	1.29	-0.05	0.96	0.01
Interpersonal communication *Ideal*	6.64	1.58	6.10	1.65	-3.75	0.00*	0.34
Physical arrangement *Ideal*	6.66	1.71	6.45	1.66	-1.53	0.13	0.12
Familiarity with the curriculum *Ideal*	5.48	1.81	4.97	1,69	-3.41	0.00*	0.29
Curriculum goals and modifications *Ideal*	6.16	1.69	5.83	1.75	-2.17	0.03*	0.20
Instructional planning *Ideal*	6.86	1.61	6.57	1.67	-1.94	0.06	0.18
Instructional presentation *Ideal*	6.97	1.60	6.83	1.57	-1.31	0.19	0.09
Classroom management *Ideal*	6.87	1.69	6.42	1.67	-3.04	0.00*	0.26

Assessment *Ideal*	6.65	1.57	6.34	1.59	-2.37	0.02*	0.20

Note: $p < 0.5$; small-medium effect size.
Levene's test is not significant ($p<0.05$).

At the ideal plane, GETs had significantly higher scores for *Interpersonal communication* (z = -3.75; p = 0.00) as compared with STs. Similarly GETs had significantly greater scores for the *Familiarity with the curriculum* (z = -3.41, p = 0.00). *Curriculum goals and modifications* is also a dimension in which GETs had a greater score than STs (z =-2.17, p = 0.03). Again, at the ideal level, GETs had higher scores (z = -3.04, p = 0.00) than STs on *Classroom management.* Lastly, GETs had significantly higher scores for the *Assessment* (z = -2.37, p = 0.02) than the STs. At the real plane, in the variable *Curriculum goals and modifications,* GETs had lower scores (z = -2.77, p = 0.01) as compared with STs as well as for *Interpersonal communication* (z = -2.02, p = 0.04).

Table 5.
Group Differences on School Level in Relation to Co-Teaching Dimensions (n=691)

Variables	Early childhood education M	SD	Primary school M	SD	Lower secondary school M	SD	Upper secondary school M	SD	$\chi^2_{(3, 687)}$	Sig.($p<0.05$)
Interpersonal communication *Real*	7.92	1.07	7.86	1.38	7.91	1.18	7.67	136	1.16	0.76
Physical arrangement *Real*	8.48	1.32	8.41	1.17	8.36	1.08	8.02	1.23	9.37	0.17
Familiarity with the curriculum *Real*	7.60	1.75	7.41	1.59	7.34	1.57	6.91	1.61	5.92	0.17
Instructional planning *Real*	8.68	0.74	8.41	1.11	8.55	0.88	7.91	1.34	16.79	0.00*
Instructional presentation *Real*	8.60	0.81	8.22	1.26	8.29	1.07	7.95	1.34	5.79	0.12
Curriculum goals and modifications *Real*	8.68	0.85	8.18	1.24	8.14	1.12	7.47	1.50	21.50	0.00*
Classroom management *Real*	8.52	0.82	8.05	1.31	8.02	1.13	7.91	1.33	6.24	0.10
Assessment *Real*	7.68	1.46	7.69	1.38	7.73	1.07	8.26	0.82	8.87	0.03*
Interpersonal Communication *Ideal*	5.64	1.55	6.68	1.58	6.43	1.62	6.06	1.62	14.64	0.00*
Physical Arrangement *Ideal*	6.64	1.80	6.81	1.64	6.44	1.77	5.87	1.61	16.40	0.00*
Familiarity with the curriculum *Ideal*	5.60	1.87	5.56	1.81	5.16	1.75	4.58	1.54	16.62	0.00*
Curriculum goals and modifications *Ideal*	6.84	1.72	6.26	1.67	5.92	1.71	5.11	1.46	27.72	0.00*
Instructional Planning *Ideal*	6.44	1.60	6.94	1.56	6.74	1.66	6.06	1.83	12.76	0.00*

Instructional presentation *Ideal*	6.88	1.16	6.98	1.64	6.97	1.47	6.45	1.91	3.34	0.34
Classroom Management *Ideal*	7.32	1.65	6.90	1.68	6.57	1.66	6.28	1.70	12.9	0.00*
Assessment *Ideal*	6.24	1.47	6.70	1.60	6.51	1.52	6.06	1.62	9.04	0.03*

Note: P < 0.5
Levene's test is significant ($p<0.05$) suggesting a violation of the assumption of equal variances in the following dimensions: Assessment *Real* (Sig. = 0.002), Instructional Planning *Real* (Sig. = 0.003), Curriculum goals and modifications *Real* (Sig. = 0.003), Instructional Presentation *Ideal* (Sig. = 0.008).

The Kruskal-Wallis H test revealed that the variable 'school level' showed differences in three of the eight dimensions, with respect to the *real* level, i.e., *Instructional planning* ($\chi^2_{(3)}$ = 16.79; p=.000), *Curriculum goals and modifications* ($\chi^2_{(3)}$ = = 21.50; p=.000) and *Assessment* ($\chi^2_{(3)}$ = 8.87; p=.03). In particular, there were differences in *Instructional planning* and *Curriculum goals and modifications* between upper secondary schools and all the other grades. Upper secondary school teachers scores were lower in both dimensions than those of early childhood education, primary and lower secondary school. With regards to *Assessment*, upper secondary school teachers scores are higher than the other ones.

Moreover, the same variable 'school level' showed differences in seven of the eight dimensions with respect to the *ideal* level: *Interpersonal Communication* ($\chi^2_{(3)}$ = 14.64; p=.00), *Physical Arrangement* ($\chi^2_{(3)}$ = 16.40; p=.00), *Familiarity with the curriculum* ($\chi^2_{(3)}$ = 16.62; p=.00), *Curriculum goals and modifications* ($\chi^2_{(3)}$ = 27.72; p=.00), *Instructional Planning* ($\chi^2_{(3)}$ = 12.76; p=.00), *Classroom Management* ($\chi^2_{(3)}$ = 12.90; p=.00) and *Assessment* ($\chi^2_{(3)}$ = 9.04; p=.03). For all these dimensions the primary school scores are always higher than the other ones. Results from observations of collaborative classrooms practices and the survey on teachers' collaborative attitudes and cultures have been used to inform the workshop content.

Phase 2. Workshop on collaboration and co-taught/non_co-taught classes observations

The second research phase consisted of a workshop for twenty secondary school teachers participating in 3-months of training about the construct of collaboration and the co-

teaching model. Two pairs of teachers (non_co-taught/co-taught) were audio and video-observed in their daily teaching practices after the conclusion of the workshop. Through the *Co-teaching Rating Scale Profile* (Gately & Gately, 2001), a profile has been created for each of the classrooms by observing the degrees of interaction and collaboration between teachers for all the 8 co-teaching dimensions, considering the three developmental stages (beginning, compromising and collaborative).

Concerning the non co-taught classroom (control group), the developmental stage can be defined as *compromising* because communication is quite open and interactive and there is also an increased appreciation of humor in classroom situations with an appropriate use of nonverbal communication. Moreover, even if the prevailing teaching observed models are 'one teach, one assist/one teach, one observe', instructional presentation is not always shared with a mutual development of roles and teachers direct some of the activities in the classroom separately (in fact students do not address questions and discuss concerns with both teachers). The ST always offers mini-lessons that clarify strategies that students could use. Concerning the physical arrangement, a quite shared and fluid movement in the classroom has been observed and the ST sometimes moves throughout the room, never if rarely takes center stage (except when teachers are in the *team teaching* variation).

Finally, regarding assessment, a question concerns homework that is always assigned by the general education teacher. In the co-taught classroom, the co-teachers have created a common classroom management system in which roles are mutually developed by an effective use of verbal, non-verbal and social and communicative skills. For the physical arrangement, a shared control space (a natural fluid movement) as well as a shared awareness of each other's position in the room (space is jointly owned) were observed.

A 'team teaching' model has been implemented in which both teachers participated in the presentation of the lessons and provided instruction appreciating each other's specific curriculum competencies: in this way, they become a model for their students who recognize

both as teachers, addressing questions and discussing concerns with both of them. A collaboration style is also evident in the assessment dimension. A shared system for evaluating individual progress and learning has been developed and implemented by co-teachers considering a variety of assessment options in order to meet different interests, profiles and needs.

Discussion

Collaborative practices and attitudes in inclusive teaching.

The results from the exploratory phase (both observation and survey data) highlight what we define as the *co-teaching paradox*, i.e., the contradiction which often exists between what a teacher believes is important and how to achieve it at an ideal level, and what is currently deemed to be important on a plane of reality. The teachers reported that, ideally, collaborative teaching had many positive aspects, such as open and sincere communication between teachers, recognition of each other as partners of equal importance for the students, and the feeling of being able to move around freely in the classroom (the items which received most responses on the *ideal* scale: about 80% of teachers responded '4' to these items). However, things change when we move to another plane of reality. The importance of the above-mentioned aspect is recognized, but the level of agreement in real-life situations falls. The results suggest on one hand the importance of collaboration as a fundamental principle of teaching and assessment, on the other, the need to study further the attitudes and cultures of teachers (Austin, 2001; Beamish, Bryer, & Davies, 2006) with the aim of revealing the 'collaborative ethos' (Rytivaara, 2012) characterising their daily practices.

A specific research question of the study was that of *analyzing differences in the attitudes towards collaboration between GETs and STs and in different levels of education*. The findings suggest that whilst GETs are increasingly aware of the value of collaboration, its implementation is largely aspirational, and this means that they remain at the

beginning/compromising stage in many cases (as shown in the exploratory phase and in the observation of the non_co-taught classroom) with a series of challenges relating to time constraints, especially for *ad hoc* and shared planning of teaching and assessment, and limited professional development opportunities (Mulholland & O'Connor, 2016). Observational data highlight that STs often act as assistants, creating an imbalance in use of expertise and skills which greatly hinders effective instruction and learning for all students (Moliner et al., 2011).

In the Italian context STs are allocated to the class the children with disabilities attend and thus their remit is that of collaborating with the GETs to develop and apply modifications and adaptations so as to support the learning of all the children. STs thus, by law, are equally responsible for all children and have, at least in theory, the same authority as the class teacher. The finding about the above mentioned STs *fixed* role as assistants is substantiated by previous studies that found that STs work with children with disabilities, and this creates a divide between teachers. This could be attributed to the fact that the coexistence of two teachers was according to legislation and not by choice and, often, creates tensions and conflicts among teachers (Graham, 2007). It reinforces GETs' view that working with children with disabilities is a matter of specialized knowledge which they do not have and are not qualified for (De Vecchi et al., 2012).

Consequently, if supported, as shown by the observation of the co-taught classroom after the workshop on collaboration, teachers can implement those aspects which allow them to develop a shared vision and management of the classroom. Concerning findings about levels of education, the main result is the difference between upper secondary school level and all other school levels in *Instructional planning* and *Curriculum goals and modifications* at the real plane. This could be explained by structural and practical problems in establishing useful planning and meetings for discussion in this specific school level (Keefe et al., 2004; Friend et al., 2010).

Limitations and recommendations for future research

Some limitations need to be considered in order to adequately understand the findings. This study was not based on a representative sample, which may not allow the findings to be generalized to the entire population of teachers in Italy. This study was conducted in only one region and only a few mainstream schools were targeted as a sample.

With reference to the 'philosophy of collaborating' and to the fact that schools represent an educating community, future research aims should involve other actors to promote collaborative attitudes (EADSNE, 2012). Results from this study suggest ideas for enhancing professional development experiences for pre-service and in-service teachers. In further research, professional development could take place through the use of video-analysis in the classroom stimulating reflection upon teaching practice. In order for co-teaching to be successful, there must be administrative support and teachers need to receive appropriate training on the purposes and functions of co-teaching as well as to have time and space to communicate and collaborate (Meadows & Caniglia, 2018).

Moreover, teacher training programs have a responsibility for preparing GETs and STs for collaboration with a focus on strategies to reduce the gap between the ideal and the real situations, starting by reinforcing the ideal vision and supporting the identification of a useful repertoire of collaborative *good practices* for all in-service teachers. In addition, school level should be considered as an important factor for addressing different needs of in-service teachers as highlighted by our results. The essence is that every school should become a place in which not only the students but also the teachers can enhance their potential as much as possible, by creating a context of positive imitations of *caring*, which allows both children and teachers to grow and develop towards common well-being.

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