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Special teachers and the use of co-teaching in Swedish-speaking schools in Finland

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ABSTRACT

Co-teaching has been highlighted as a possible response to classroom diversity. This study investigated the use of co-teaching by general education teachers and special teachers in Swedish-speaking schools in Finland. The data consisted of special teachers' ($N = 126$) responses to a questionnaire. On average, the respondents co-taught for 13% of the time. However, nearly a fifth of respondents did not use co-teaching at all, while sixth of them used it for 30–50% of the time. Most of the respondents co-taught for less than 30% of the time. Co-teaching was more common during Swedish and mathematics lessons than during lessons for other subjects. A significantly higher number of respondents used co-teaching during Swedish lessons in primary schools than in lower secondary schools. Parallel teaching was found to be the most common method of co-teaching. Although the results indicated that co-teaching was more common among respondents who had recently received their special education certification, this difference was not statistically significant. Similarly, no significant differences were found among respondents who worked in different regions, at different school levels or in schools of different sizes. The possible reasons for the differences between the respondents with regard to their time spent co-teaching are discussed.

KEYWORDS

Co-teaching; inclusive education; questionnaire; special education teachers; teacher collaboration

Introduction

A child's right to regular and inclusive education was established in 1994 with the Salamanca Statement, which was signed by 92 countries, including Finland (United Nations Educational, Scientific and Cultural Organization [UNESCO], 1994). As in most European countries, the Finnish school system is based on a vision of inclusive education (Finnish Basic Education Act, 2010) that focuses on the well-being of all pupils and seeks to develop classrooms where all pupils can learn and participate together (Haug, 2017; Kiuppis, 2014). Furthermore, inclusive education has been defined as an ongoing process that seeks to determine improved ways to respond to classroom diversity (Ainscow, 2005).

The extant literature has described various educational modifications and strategies that can be used to meet the diverse needs of classrooms in an inclusive way, with co-teaching often mentioned as one such strategy (Barrett, Stevenson, & Burns, 2019;

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Friend, Cook, Hurley-Chamberlain, & Shamberg, 2010; Saloviita, 2018). Co-teaching has been defined by Friend et al. as “a partnering between a special education teacher and a general education teacher for the purpose of jointly delivering instruction in a general education setting to a diverse group of students, including those with special needs” (2010, p. 11).

Since the mention of inclusive education in the Salamanca Statement (UNESCO, 1994), interest in co-teaching has grown and become an accepted inclusive education approach on an international level. However, in some countries, such as the United States and Italy, the co-teaching trend has progressed more than in others (see, e.g. Friend et al., 2010; Saloviita, 2018; Scruggs & Mastropieri, 2017). In Nordic countries, it appears that co-teaching has primarily attracted the attention of Finnish researchers (Sundqvist & Lönnqvist, 2016). Finnish educational policy documents specify co-teaching as a possible method of delivering part-time special education in an inclusive way (Finnish National Board of Education, 2016).

Since 2011, special educational support in Finland has been provided to pupils in primary schools (aged 6–12 years) and lower secondary schools (aged 13–16 years) through the “Learning and Schooling Support” framework, which comprises three tiers of support: general, intensified and special (Finnish Basic Education Act, 2010; Finnish National Board of Education, 2016). Although not completely comparable, this three-tiered support system has much in common with the “Response to Intervention” framework of the United States (Björn, Aro, Koponen, Fuchs, & Fuchs, 2016). In 2018, 10.6% of all Finnish pupils received the second tier of support, while 8.1% received the third tier of support (Finnish National Agency for Education, 2019). There is no statistical information available for the first tier of support, since it consists of only short-term support. Early support and support in general education settings are emphasised in Finnish policy (Finnish Basic Education Act, 2010; Finnish National Board of Education, 2016), but special education classes are still an option for pupils receiving third-tier support.

Finland is a bilingual country, with schools serving both the Finnish- and Swedish-speaking population. Most of the Swedish-speaking population lives along the western coastline (Ostrobothnia), in certain parts of southern and southwestern Finland, as well as on the Åland Islands. Approximately 6% of Finnish pupils receive their education in schools where Swedish is the language of instruction, and although the education system is generally equal for both language groups, differences can be discerned in how these schools deliver special educational support. For example, fewer pupils receive special educational support in Swedish-speaking schools, and special classroom placements are more common in Finnish-speaking schools (Finnish National Agency of Education, 2018). Possible factors explaining these differences relate to population and school structures, there are more small schools in sparsely populated areas in the Swedish speaking areas than in areas where Finnish is the majority language (Finnish National Agency of Education, 2020).

Studies conducted in Finnish-speaking schools have found that the use of co-teaching has increased since the implementation of the three-tiered support system (Saloviita, 2018; Sirkko, Takala, & Wickman, 2018; Takala & Uusitalo-Malmivaara, 2012), but there remains a lack of knowledge regarding how it is organised, and in which subjects it is used. Furthermore, relatively little research has been conducted into

the use of co-teaching in Finland's Swedish-speaking schools. This quantitative study therefore sought to bridge this gap and present findings regarding the organisation of co-teaching and the variations of its use in Swedish-speaking schools in Finland. The results of the study will contribute to discussions about and understandings of the use of co-teaching as a component of inclusive education in other countries.

Co-teaching as an inclusive teaching strategy: the benefits and challenges

Co-teaching, where special education teachers (SETs) and general education teachers (GETs)¹ cooperate, has been an important topic in the field of inclusive education for decades. A number of researchers have identified co-teaching as a possible strategy for inclusive education (Cook & Friend, 1995; Friend et al., 2010; Scruggs & Mastropieri, 2017). Inclusive education requires the roles of central stakeholders to change and become more collaborative (Ainscow & Sandill, 2010). This, since co-teaching involves a redirection of special education knowledge towards the classroom. Instead of referring certain pupils to an intensive special education service outside of the regular classroom, the SET brings his or her competence into the regular classroom (Friend et al., 2010; King-Sears, Jenkins, & Brawand, 2018; Scruggs & Mastropieri, 2017). Another central benefit conferred by co-teaching that supports inclusive education is the increased teacher–pupil ratio, which improves teachers' abilities to differentiate between students and meet individual needs without excluding pupils (Friend et al., 2010; Krammer, Gastner, Paleczek, Gasteiger-Klicpera, & Rossman, 2018).

There are also several benefits to co-teaching for teachers, including the ability to pay more attention to each student and share professional knowledge (Cartey & Farrell, 2018; Krammer et al., 2018; Takala & Uusitalo-Malmivaara, 2012). However, a lack of shared planning time, unclear or unequal roles and a lack of co-teaching knowledge have been reported as barriers to the development of co-teaching (Murawski, 2006; Saloviita & Takala, 2010; Scruggs & Mastropieri, 2017; Sirkko et al., 2018; Takala & Uusitalo-Malmivaara, 2012).

During co-taught lessons, students have reported that teaching methods are more varied and that they receive more help (King-Sears et al., 2018). In particular, students (both with and without learning difficulties) in lower secondary schools experienced increased academic success, an improved sense of belonging and greater school enjoyment when they were in co-taught classrooms (King-Sears et al., 2018; Rea, McLaughlin, & Walther-Thomas, 2002; Rivera, McMahon, & Keys, 2014; Wilson & Michaels, 2006). However, students have also expressed negative experiences of co-teaching. For example, students with special educational needs have claimed it is more difficult to receive help and education in accordance with the individual education plan during co-taught lessons since necessary accommodations were not always made (Leafstedt, Richards, & Lamonte, 2007).

Conflicting results have arisen regarding the effect of co-teaching on students' learning outcomes. Research has shown that co-taught lessons improved learning experiences among students with special educational needs (King-Sears et al., 2018; Hang & Rabren, 2009). Nevertheless, Murawski (2006) found no significant differences in learning outcomes when pupils receiving support through co-teaching, special classroom teaching or ordinary classroom teaching were compared. Hattie's (2009) meta-

analysis found small positive effects on learning outcomes as a result of co-teaching, while a meta-analysis by Koury (2014) found moderate positive effects on students' academic outcomes as a result of co-teaching when compared with students in a special education classroom setting. These conflicting results can be explained by differences in the quality as well as the length and intensity of co-teaching (Koury, 2014; Krammer et al., 2018). Furthermore, since co-teaching has been advocated as an inclusive education method, equal academic outcomes in co-taught and special classes could be regarded as sufficiently positive to justify the implementation (Sundqvist & Lönnqvist, 2016). However, it can be difficult to persuade teachers and especially school principals, whose support is crucial for implementing co-teaching (Ainscow & Sandill, 2010; Friend & Barron, 2016), without it having demonstrated positive learning outcomes (Krammer et al., 2018).

Co-teaching models and the collaborative aspect of co-teaching

With two teachers of different competencies in one classroom, there is increased flexibility in terms of grouping and differentiating. In the extant research and literature, different ways of organising co-teaching have been discussed, and researchers suggest a variation in the use of certain models. The “one teach, one assist” model, which is characterised by one teacher taking the main responsibility for teaching while the other teacher circulates and offers individual instruction to pupils, seems to be the most common (Bryant Davis, Dieker, Pearl, & Kirkpatrick, 2012; Cartey & Farrell, 2018). In the “teaming” model, both co-teachers interactively deliver instructions to all pupils (Cartey & Farrell, 2018; Friend et al., 2010). Other models include the “parallel teaching” model, in which the teachers divide the class into two heterogeneous groups or one teacher instructs most of the pupils while the other gives differentiated instructions to a smaller group (also called “alternative teaching”); and the “station teaching” model, in which pupils rotate between two or more stations manned by the co-teachers (Friend et al., 2010). Friend et al. (2010) also mention the possibility to use the “one teach, one observe” model.

The one teach, one assist model and the teaming model require a high level of interaction between teachers during the lesson, while parallel teaching, for example, includes a lower. In a recent study conducted by Cartey and Farrell (2018), the teachers stated that they did not feel like co-teachers during the lessons where parallel teaching was used because they sometimes taught in two different locations. Prior research has emphasised that collaboration between co-teachers is required for successful co-teaching and that this collaboration should be characterised by shared responsibility, shared planning, shared implementation and shared evaluation (Friend et al., 2010; Scruggs & Mastropieri, 2017). In other words, co-teaching should occur as a form of teacher collaboration in a shared educational setting (Cook & Friend, 1995; Friend et al., 2010; Pugach & Winn, 2011).

Managing co-teaching means that the necessary models and collaborative skills (such as good communication skills and ability to share responsibility), have to be learned by teachers (Krammer et al., 2018; Scruggs & Mastropieri, 2017). Since co-teaching involves both a SET and GET, knowledge about how to collaborate and carry out co-teaching is a key element of its successful implementation, and Friend et al. (2010) have

noted the importance of emphasising co-teaching in *all* teacher training programmes. Furthermore, school principals are in a key position in terms of their school's development towards inclusive education and are important actors when it comes to encouraging and enabling teacher collaboration (Ainscow & Sandill, 2010).

Co-teaching as part of special education in Finland

Finland is recognised as a country that has highly educated teachers, as all of its teachers have to obtain a master's degree (300 credits). For SETs, their education must include 60–120 credits in special needs education. There are two types of SETs working in Finnish schools: special classroom teachers (SCTs), who typically function as teachers in their own special classes, and part-time special teachers (STs), who teach pupils with learning disabilities (who receive most of their education in an ordinary classroom) through part-time special education for a few hours per week (Ström & Hannus-Gullmets, 2015). Part-time special education is provided to pupils at all three support tiers. In 2018, approximately 22% of Finnish pupils received part-time special education services (Statistics Finland, 2019). Earlier data also indicate that more pupils receive part-time special education in primary schools than in secondary schools (Statistics of Finland, 2011). The most common reason for part-time special education in primary schools is due to pupils' reading and writing difficulties, followed by difficulties in mathematics. In lower secondary schools, the most common reasons are mathematical difficulties and difficulties with foreign languages (Statistics Finland, 2011).² STs are trusted professionals who, along with other teachers, have significant autonomy in terms of planning how to implement their part-time support (Björn et al., 2016; Jahnukainen, 2015).

Finnish policy documents refer to co-teaching as a method of offering part-time special education services (Finnish National Board of Education, 2016). Current research conducted in Finnish-speaking schools has suggested that co-teaching and collaboration between teachers have increased in the last few years (Lakkala, Uusiäntti, & Määttä, 2016; Pesonen et al., 2015; Saloviita, 2018; Thuneberg et al., 2014). Saloviita (2018) found that 62% of STs in Finnish comprehensive schools used co-teaching weekly. In contrast, Sirkko et al. (2018) reported that while teachers in Finnish schools used co-teaching, they did so without any established form of support. They also found that in their sample, co-teaching more closely resembled cooperation and was often carried out in different locations with selected pupils.

When comparing the use of co-teaching among different SETs, several studies have indicated that co-teaching is more common among STs than SCTs and more common among GETs in primary schools than subject teachers in lower secondary schools (Saloviita, 2018; Saloviita & Takala, 2010; Takala & Uusitalo-Malmivaara, 2012). Takala and Uusitalo-Malmivaara (2012) also found that the frequency of co-teaching use varied between STs: Some used it a lot, while others did not use it at all. Saloviita (2018) also found that co-teaching was more prevalent in bigger municipalities and among younger teacher groups.

The roles of SETs in Swedish-speaking areas in Finland and the organisation of special educational support were described by Sundqvist, Björk-Åman, and Ström (2019) and Björk-Åman and Sundqvist (2019). Sundqvist et al. (2019) found that

SETs mostly delivered special educational support to pupils in small-group or individual settings, while co-teaching comprised only a very small proportion of the total teaching time. However, their results also indicated a significant variance in SETs' use of co-teaching. Björk-Åman and Ström reported that co-teaching appears less frequently in Swedish-speaking than Finnish-speaking schools in Finland.

Study aim

This study sought to increase knowledge regarding the organisation of co-teaching and the variations in its use among STs in Swedish-speaking schools in Finland. The study focused on STs rather than SCTs, because SCTs usually teach pupils with major disabilities in special classrooms, and Finnish policies specifically state that co-teaching should be used in the delivery of part-time special education services. The following research questions served as the starting points for this study:

- (1) To what extent does the amount of time spent to co-teaching differ between STs? Can specific school- and teacher-related independent variables explain these differences?
- (2) Which co-teaching models are most frequently used, and in which subjects do STs co-teach most frequently? Does the use of specific co-teaching models or the use of co-teaching in different subjects differ between STs in primary versus lower secondary schools?

Methods

The results presented in this article are part of a wider research project that aimed to present new insights regarding the implementation of the three-tiered support system and the role of SETs in Swedish-speaking schools in Finland. The study employed a quantitative method, and a questionnaire served as the data collection instrument. An online survey was distributed in October 2017 with the aim of reaching all SETs (both STs and SCTs) ($N = 395$) in Swedish-speaking comprehensive schools ($N = 247$) in Finland. The schools and respondents were identified via a website³ that holds information about all Swedish-speaking schools in Finland. Additional information was obtained via the schools' own websites and through direct contact with the headmasters of these schools.

The questionnaire consisted of a modified version of a survey designed by Paloniemi, Kärnä, Pulkkinen, and Björn (2018) at the University of Eastern Finland and contained both multiple-choice and open-ended questions. Of the questionnaire's 51 items, 10 were related to the teachers' backgrounds, 9 dealt with information about the school and 32 focused on the SETs' professional tasks and roles, their collaboration with others and the three-tiered support system. The results of the present study are based on the answers given to three specific questions about SETs' use of co-teaching (see Appendix). The first question, "How do you divide your teaching time during the school year?" had six answer choices, and teachers were asked to estimate the percentage of their time spent on each during a typical school year. The second question asked, "In what form

and how often do you, as a SET, cooperate with other teachers?" The possible responses concerning the form of co-teaching were "teaming," "one teach, one assist," "parallel teaching," "station teaching," or "one teach, one observe." The teachers were asked to choose between "daily," "weekly," "a couple of times per month," "a couple of times per term" or "seldom or never" for each option. In the third question, "If you cooperate through co-teaching, in which subjects do you co-teach the most? Choose three alternatives at the most," teachers were given 10 different subjects to choose between, with some subjects combined into a single option (e.g. physics and chemistry).

Participants

We received answers from 158 SETs (144 women, 11 men, 3 did not specify), indicating a response rate of 40%. In total, 126 respondents worked as STs, and 32 worked as SCTs. Given the purpose of this study, only the answers from the STs ($N = 126$) were analysed. The respondents ($N = 126$) worked in different regions within the Swedish-speaking parts of Finland: southern Finland ($N = 44$), southwestern Finland ($N = 14$), Ostrobothnia ($N = 55$) and the Åland Islands ($N = 13$). The majority of respondents ($N = 79$) worked at primary level, while roughly a third ($N = 32$) worked at lower secondary level and some ($N = 10$) worked in combined primary- and lower secondary-level schools. The school sizes differed significantly: The smallest school had 28 students, and the biggest had 759 students, with a mean of 215 students. The mean age of the respondents was 43 years (range: 21–66). Most of the respondents were certified STs; however, 11 reported that they were not certified.

Analysis

The data were analysed using descriptive analysis, with a particular focus on percentages and frequencies. Group differences regarding the percentage of STs' working time spent co-teaching were further analysed using independent school-related (regional location, school level and school size) and teacher-related (age, year of SET certification and years of teaching experience) variables. When looking at group differences, we used independent sample t -tests, one-way analyses of variance (ANOVAs) and Cohen's d . A p -value of .05 was used to indicate significance.

Results

Research question one: differences in teaching time spent to co-teaching

Respondents indicated that, on average, they devoted approximately 13% of their teaching time during the school year to co-teaching ($M = 13.1$, $Md = 10$, $SD = 11.5$); range: 0% [$N = 22$, 17.7%] to 50% [$N = 2$, 0.1%]. Looking at the mean value no statistically significant differences were found between respondents' usage of co-teaching and their region. Respondents who worked in small schools devoted more time to co-teaching ($M = 15.7$) than respondents in larger schools ($M = 12.1$), but this difference was not statistically significant. Respondents who were aged between 31–40 years spent a slightly greater percentage of their time co-teaching ($M = 17.3$)

Table 1. Amount (%) of teaching time used to co-teaching in relation to certain school- and teacher-related variables.

| | Variable | N | Mean | SD | Median |
|---------------------------|----------------------|----|------|------|--------|
| School-related variables | | | | | |
| Region | Southern Finland | 40 | 14.4 | 11.5 | 10.0 |
| | Southwestern Finland | 14 | 14.5 | 11.9 | 12.0 |
| | Ostrobothnia | 55 | 12.4 | 11.6 | 10.0 |
| | Åland Islands | 13 | 9.7 | 9.0 | 10.0 |
| School level | Primary | 79 | 11.0 | 11.0 | 10.0 |
| | Secondary | 34 | 13.2 | 13.2 | 10.0 |
| | Mixed | 10 | 10.6 | 10.6 | 15.0 |
| School size | >120 | 36 | 15.7 | 11.9 | 12.5 |
| | <120 | 87 | 12.1 | 11.3 | 10.0 |
| Teacher-related variables | | | | | |
| Age (years) | ≤50 | 36 | 12.7 | 12.4 | 10.0 |
| | 41–49 | 45 | 11.3 | 9.6 | 10.0 |
| | 31–40 | 21 | 17.3 | 15.3 | 15.0 |
| | ≥30 | 17 | 13.3 | 8.7 | 10.0 |
| Experience (years) | 0–7 | 31 | 12.1 | 10.6 | 10.0 |
| | 8–18 | 55 | 15.3 | 12.8 | 10.0 |
| | 19–35 | 37 | 10.9 | 10.0 | 10.0 |
| Year of certification | 1979–2001 | 34 | 11.0 | 9.3 | 10.0 |
| | 2002–2008 | 42 | 12.9 | 11.8 | 12.0 |
| | 2009–2016 | 33 | 16.5 | 13.3 | 10.0 |

SD = standard deviation.

than younger ($M = 13.3$) or older respondents ($M = 12.7$), and the same trend was apparent in years of teaching experience: respondents with less than 8 ($M = 12.1$) or more than 18 ($M = 10.9$) years of experience used co-teaching slightly less than teachers with 8–18 years of teaching experience ($M = 15.3$). However, none of these differences reached statistical significance. Similarly, while respondents who received their SET certification earlier (1979–2001, $M = 11.0$) used co-teaching slightly less than those who received their certification later (2002–2008, $M = 12.9$; 2009–2016, $M = 16.5$), the differences were not significant. These results are reported in more detail in [Table 1](#).

A further analysis of the descriptive data indicated that 42% of respondents engaged in co-teaching for 1–10% of their time, while 24% of the respondents devoted 11–29% of their time to co-teaching; 18% did not use co-teaching at all and a minority of 16% used it for 30% or more of their time ([Figure 1](#)). As can be seen in [Figure 1](#) there were for example differences between the usage of co-teaching between respondents in primary and lower secondary schools. But, as reported above, no significant differences were found regarding the examined background factors.

Research question two: co-teaching models and subjects

Regarding the use of co-teaching models, 70% of respondents used at least one of the five co-teaching models either daily or weekly. Parallel teaching was the most commonly reported co-teaching model (56%), followed by the one teach, one assist model (40%) and the teaming model (31%). Station teaching and the one teach, one observe model were used infrequently. These results are illustrated in [Figure 2](#).

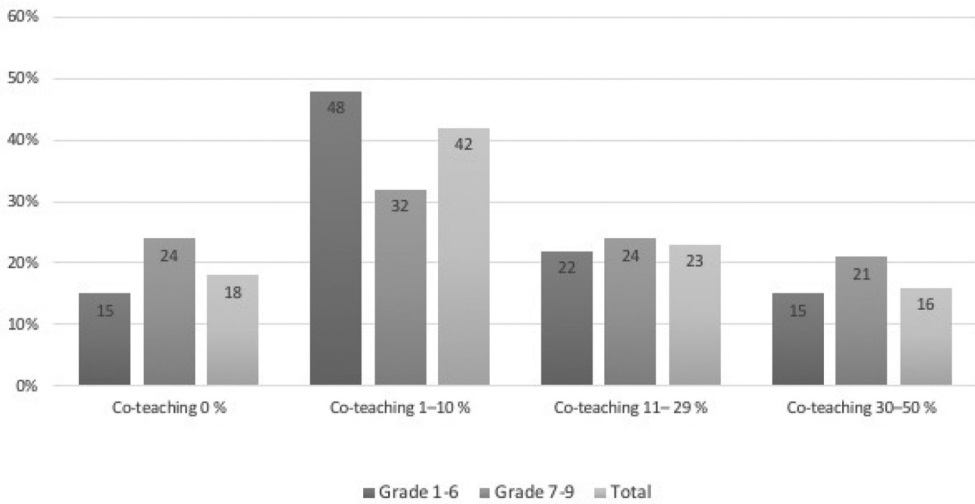


Figure 1. Respondents' teaching time (%) spent co-teaching

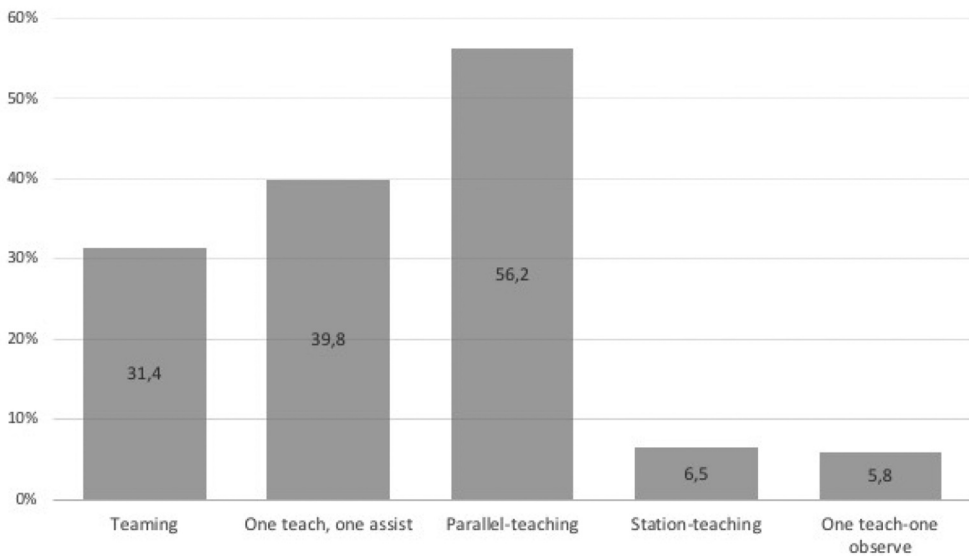


Figure 2. Respondents' co-teaching models used daily or weekly (%)

As shown in [Table 2](#), parallel teaching was used to the same extent in both primary and lower secondary schools, while teaming and station teaching were somewhat more common in primary schools, and the one teach, one assist model was more common in lower secondary schools. However, none of these differences were statistically significant, as determined by a one-way ANOVA.

Respondents were also asked to identify the subjects in which they co-taught most frequently, up to a maximum of three subjects out of a list of 10. Respondents reported that they used co-teaching most often in mathematics (76%) and Swedish (mother tongue)

Table 2. The use of different co-teaching models at different school levels.

| Co-teaching model | Primary | | | Secondary | | | Mixed | | |
|-------------------|-----------------------------|-----|------------------|-----------------------------|-----|------------------|-----------------------------|-----|------------------|
| | Regularly used (Likert 4–5) | | Likert scale 1–5 | Regularly used (Likert 4–5) | | Likert scale 1–5 | Regularly used (Likert 4–5) | | Likert scale 1–5 |
| | % | M | | SD | % | | M | SD | |
| Teaming | 31.6 | 2.8 | 1.2 | 35.3 | 2.5 | 1.5 | 20.0 | 2.0 | 1.3 |
| Assisting | 35.9 | 2.8 | 1.2 | 47.0 | 3.1 | 1.4 | 50.0 | 2.9 | 1.3 |
| Observing | 2.6 | 1.6 | 0.8 | 15.1 | 1.9 | 1.3 | 0.0 | 1.6 | 0.9 |
| Parallel | 52.9 | 3.2 | 1.3 | 58.8 | 3.2 | 1.6 | 80.0 | 3.6 | 1.3 |
| Station | 7.6 | 2.0 | 0.9 | 3.0 | 1.6 | 1.0 | 10.0 | 1.9 | 0.9 |

Regularly used = 4 (weekly) or 5 (daily) on the Likert scale.

Table 3. School subjects most often co-taught by respondents.

| School subject | Primary | | | Secondary | | | Mixed | | | Total | | |
|------------------------|---------|------|------|-----------|------|------|-------|------|------|-------|------|------|
| | N | % | M | N | % | M | N | % | M | N | % | M |
| Mathematics | 63 | 80.0 | 0.80 | 22 | 64.7 | 0.65 | 9 | 90.0 | 0.90 | 94 | 75.8 | 0.76 |
| Swedish | 64 | 81.0 | 0.81 | 16 | 47.0 | 0.47 | 9 | 90.0 | 0.90 | 89 | 72.6 | 0.73 |
| Finnish | 14 | 17.7 | 0.18 | 9 | 26.5 | 0.26 | 2 | 20.0 | 0.20 | 25 | 21.0 | 0.21 |
| English | 7 | 8.8 | 0.09 | 8 | 23.5 | 0.24 | 2 | 20.0 | 0.20 | 17 | 14.5 | 0.15 |
| Physics/chemistry | 0 | 0.0 | 0.00 | 4 | 11.8 | 0.12 | 0 | 0.0 | 0.00 | 4 | 3.2 | 0.03 |
| Biology/geography | 4 | 5.0 | 0.05 | 4 | 11.8 | 0.12 | 0 | 0.0 | 0.00 | 8 | 6.5 | 0.06 |
| Social science/history | 4 | 5.0 | 0.05 | 2 | 5.8 | 0.06 | 0 | 0.0 | 0.00 | 6 | 4.8 | 0.05 |
| Religion | 1 | 1.2 | 0.01 | 1 | 2.9 | 0.01 | 0 | 0.0 | 0.00 | 2 | 1.6 | 0.02 |
| Art/music/sports | 1 | 1.2 | 0.01 | 1 | 2.9 | 0.01 | 0 | 0.0 | 0.00 | 2 | 1.6 | 0.02 |

Respondents could choose a maximum of three subjects.

lessons (72%). Co-teaching was reported to a significantly lesser extent during Finnish (20%) and English (14%) lessons, while in other subjects, co-teaching was unusual or non-existent. Respondents in primary and mixed-level schools used co-teaching in Swedish and mathematics lessons more often than respondents in lower secondary schools, while respondents in lower secondary schools used co-teaching in Finnish and English lessons more often (Table 3). However, the only statistically significant difference was in relation to the frequency of co-teaching during Swedish lessons between respondents working at different school levels ($F(2, 120) = 8.58, p = 0.000, d = 0.69$).

Discussion

The aim of this study was to increase knowledge about the use of co-teaching among STs in Swedish-speaking schools in Finland. The results indicated that respondents co-taught to a relatively moderate extent. On average, they spend 13% of their total teaching time during the school term co-teaching. Since a ST working full-time usually teaches for 24 hours a week, this means that they spend between two and three hours a week co-teaching. Furthermore, the results concerning the use of different co-teaching models indicate that 70% of respondents used at least one co-teaching model on a weekly basis. Some co-teaching models were also significantly more common than others. Co-teaching therefore seems to have become an established way of teaching among many of the STs in our sample. However, given that co-teaching is emphasised in both Finnish policy (Finnish National Board of Education, 2016) and research

(Barrett et al., 2019; Friend et al., 2010; Saloviita, 2018), it was expected that the respondents would have utilised co-teaching more often.

Consistent with previous research on co-teaching in Finland (Takala & Uusitalo-Malmivaara, 2012), we also found significant differences among the respondents in terms of their use of co-teaching. In total, 18% of respondents reported they did not co-teach at all, while almost as many (16%) reported that they used co-teaching for 30–50% of their teaching time. The majority of respondents co-taught for 1–29% of their teaching time. Our results indicated that there were no significant differences in the use of co-teaching in relation to school level, region or size. This conflicts with earlier Finnish studies, where results showed that classroom teachers in primary schools co-taught more often than subject teachers in secondary schools (Saloviita, 2018; Saloviita & Takala, 2010; Takala & Uusitalo-Malmivaara, 2012), despite international research showing that students in higher grades particularly benefit from co-teaching and that they appreciate co-teaching as a support strategy (King-Sears et al., 2018; Rea et al., 2002; Rivera et al., 2014; Wilson & Michaels, 2006). The present finding – namely, that the amount of time devoted to co-teaching was similar among respondents in primary and lower secondary schools – is therefore surprising.

Although some small differences were found between respondents' use of co-teaching and their age, year of certification or years of teaching experience, none of these differences were significant. This is in contrast with Saloviita's (2018) finding that younger STs co-taught significantly more than older STs. Inclusive education and co-teaching are emphasised in the current university-level special education curricula for teachers (Åbo Akademi University, 2019), but this does not seem to have increased the amount of time spent co-teaching among newly qualified Swedish-speaking STs in Finland. This suggests that newly qualified STs may be unable to change existing school cultures and need more support from the school principal. In order to establish co-teaching within a school, GETs, as well as STs, must have both knowledge of and interest in co-teaching (cf. Friend et al., 2010). Finnish SET education programmes have acknowledged this need and have tried to promote multidisciplinary teacher education projects. One such example is the ongoing national project Supporting Together, which seeks to increase student teachers' opportunities to practice multidisciplinary collaboration by, for example, co-teaching during joint practice periods (Supporting together, 2019).

Overall, our results indicated that STs in Swedish-speaking schools in Finland co-taught less (on average 13% of teaching time) than their peers did in Finnish-speaking schools (approximately 16% of teaching time) nearly 10 years ago (cf. Saloviita & Takala, 2010). This is supported by previous work by Sundqvist et al. (2019) that focused on the role of SETs. At the same time, however, as many as 70% of respondents in the present study used at least one co-teaching model on a weekly basis, whereas Saloviita (2018) found that only 62% of Finnish-language STs co-taught at least weekly. This seems to imply that co-teaching is slightly more common in Swedish-speaking schools. However, some caution is needed here. A possible explanation for this apparent high frequency of co-teaching may lie in the fact that parallel teaching was the most frequently used model among the STs in our study, and it is plausible that the respondents' interpretation of parallel teaching failed to meet the criteria of co-teaching since no thorough definition of the co-teaching

models was given in the questionnaire (see Appendix). STs may thus have interpreted for example fixed small-group instructions in separated rooms as parallel co-teaching. This explanation is supported by Sirkko et al. (2018), who found that Finnish STs sometimes believe they are co-teaching even when there is no interaction between the teachers and said teachers are not jointly responsible for the same students – two crucial features of co-teaching (e.g. Friend et al., 2010; Pugach & Winn, 2011).

Finally, our results indicated that Swedish-speaking STs co-taught mostly during mathematics and Swedish lessons, both of which are core subjects that STs normally work with (Statistics Finland, 2011). Co-teaching was less frequent in English and Finnish and was practically non-existent in other subjects e.g. more practical subjects such as arts, music and sports. Respondents working in primary schools also co-taught significantly more during Swedish lessons than their colleagues in lower secondary schools, which is not surprising, since reading and writing support in the lower grades is a feature of the Finnish support system (Statistics Finland, 2011) that would inevitably influence the work of Finnish STs.

Co-teaching has been identified as a central strategy of inclusive education (Friend et al., 2010; Saloviita, 2018; Scruggs & Mastropieri, 2017). In Finland, co-teaching is highlighted in the policy documents as a way of providing support to students (Finnish National Board of Education, 2016). However, the results of the present study indicate that most of the STs in Swedish-speaking schools still seldom use co-teaching regularly as a way of supporting students in part-time special education. The variation in the use of co-teaching among STs therefore also has to be questioned from the perspective of inclusive education. Is the right to learn together with one's peers endangered in schools where STs never or seldom support pupils with special educational needs by using co-teaching? On the other hand – should short-term small-group teaching a couple of hours a week, that is a common way of delivering special educational support in Finland, always be regarded as excluding? Can inclusive education thus also be ensured even if all the pupils in a class don't spend all their time together? Also, does co-teaching only focus on core subjects (e.g. Swedish and mathematics)? Are teachers collaboration implemented in other ways in other subjects? And why is co-teaching not used in practical subject such as arts and sport? Are the pupils getting any support at all in these subjects? Unfortunately, the answers to these questions cannot be addressed through the results of this study.

Limitations and future research

The present study's results are limited by its relatively small sample size. The response rate was 40%, which is quite low in general but a normal rate for studies that use electronic questionnaires. However, since we, for the purpose of this study, have only been interested in the responses of the STs ($N = 126$), these respondents comprised approximately 32% of the total sample. One reason for the low response rate might be the length of the questionnaire including in all 51 questions focused on the role of SETs in the three-tiered support system. In addition, it was some limitations regarding the formulation of some of its questions. For instance, although the co-teaching models were briefly described in the questionnaire, some respondents may have misunderstood

the meaning of parallel teaching as a co-teaching model. In addition, the question regarding co-taught subjects contained a maximum of three alternatives (without preference), and this may have resulted in the provision of an overly limited overview of the subjects in which STs co-taught.

Nevertheless, the study provides some insights into the use of co-teaching among STs as well as the differences between STs' use of co-teaching. Notably, an individual teacher's decision to use co-teaching seems to depend on factors other than the school- and teacher-related variables assessed here. It is possible, for example, that the school's culture and principal's knowledge of and opinions on co-teaching could have significant impacts, but these were not examined here. Further research is thus needed. Overall, more qualitative studies that focus on schools where STs and GETs co-teach more regularly are needed, and an exploration needs to be conducted into the factors that make it possible for these teachers to co-teach. The limited use of co-teaching can perhaps be attributed to the fact that STs still do not fully trust co-teaching as a method of delivering high-quality special education. Research results are ambivalent about this, and in the Nordic context, it is difficult to find research related to students' outcomes and experiences. Thus, there is also a need for further research that explores co-teaching's impact on student motivation, self-efficacy, learning and participation, as this could potentially motivate schools and teachers to implement more co-teaching practices.

Notes

1. The term "SETs" refers to both part-time special teachers (STs) and special class teachers (SCTs).
2. Since Finland is a bilingual country, Finnish-speaking pupils study Swedish at school, and Swedish-speaking pupils study Finnish. Students can begin to study Finnish in grade 1 or later. English is the most common language offered as the other compulsory language and is usually taught from grades 4 or 5 onwards (Finnish National Agency for Education, 2019).
3. <http://www.svenskskola.fi>.

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