

Students' Perceptions of Co-Teaching in the Inclusive Classroom

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ABSTRACT

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To inform inclusive educational practice, it is important to consider the experiences of inclusive classroom students. The current study aimed to examine student perceptions of co-teaching practices in inclusive classrooms. In addition to general student attitudes towards co-teaching, the study focused on academic achievement, teacher availability, learning environment and co-teachers' collaborative relationship as perceived by students in co-taught classrooms.

Quantitative survey research was conducted in two lower secondary schools in Central Finland. A questionnaire consisting of multiple Likert scales was answered by 226 students with varying experiences of co-teaching. In addition to student perceptions, data on school motivation, academic achievement and received support for learning and schooling was collected.

Overall, students' perceptions of co-teaching were positive. Co-teaching did not affect students' academic self-concept. Students did not perceive increased involvement, cooperation nor equity in co-taught settings. Teacher availability was also perceived to be similar in co-taught and non-co-taught classrooms. Co-teachers' collaborative relationships were perceived as functional and equitable.

In the context of the study, co-teaching can be considered as effective as traditional teaching methods. Results seem to indicate that co-teachers may not be providing enough student-centered teaching and collaborative learning opportunities. It would be important to further research co-teachers' practice.

Keywords: Co-Teaching, Team Teaching, Student Attitudes, Academic Achievement, Learning Environment, Teacher Collaboration

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Inkluusiokäytäntöjen kehittämisessä on erittäin tärkeää huomioida inkluusioluokkien oppilaiden kokemukset opetuksesta. Tällä perusteella pro gradu -tutkimuksessa selvitettiin yläkoululaisten näkökulmia samanaikaisopetuksesta inkluusioluokissa. Oppilaiden yleisen suhtautumisen samanaikaisopetukseen lisäksi tutkittiin oppilaiden näkökulmia koulumenestyksestä, opettajilta saadusta tuesta, oppimisympäristöstä ja opettajien yhteistyösuhteesta samanaikaisopetuksen yhteydessä.

Määrälliseen tutkimukseen osallistui kahden keskisuomalaisen koulun 226 oppilasta, joilla on ollut eri kokemuksia samanaikaisopetuksesta. Oppilaat vastasivat kyselyyn, joka koostui useammasta Likert-asteikkoon perustuvasta mittarista. Lisäksi kerättiin tietoa oppilaiden koulumotivaatiosta, koulumenestyksestä ja oppilaille annetusta oppimisen ja koulunkäynnin tuesta.

Oppilaat suhtautuivat melko positiivisesti samanaikaisopetukseen. Samanaikaisopetuksella ei ollut vaikutusta oppilaiden oppimisinäkäsitykseen. Samanaikaisopetus ei näyttänyt vaikuttavan oppilaiden kokemaan osallistumiseen, yhteistyöhön ja tasa-arvoisuuteen. Oppilaat kokivat saavansa yhtä paljon tukea opettajilta siitä huolimatta, oliko samanaikaisopetus käytössä. Opettajien yhteistyösuhteet koettiin toimiviksi ja tasa-arvoisiksi.

Samanaikaisopetus todettiin yhtä tehokkaaksi opetusmenetelmäksi kuin tavallinen opetus. Tulosten perusteella voidaan päätellä, ettei samanaikaisopetuksen yhteydessä tarjota riittävästi oppilaskeskeisiä ja yhteistoiminnallisia oppimisaktiviteetteja. Samanaikaisopetusta on kuitenkin vielä tutkittava.

Hakusanat: samanaikaisopetus, tiimiopeutus, oppilaan näkökulma, koulumenestys, oppimisympäristö, opettajien yhteistyö

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CONTENTS

1	INTRODUCTION.....	8
2	INCLUSIVE EDUCATION AND CO-TEACHING	10
2.1	Inclusive Education	10
2.2	Co-Teaching.....	14
3	THE CASE OF FINLAND.....	17
3.1	Inclusion and Special Needs Education	17
3.2	Co-Teaching in Finland.....	20
4	OUTCOMES OF CO-TEACHING.....	22
4.1	Overview	22
4.2	Academic Achievement	23
4.3	Learning Environment	25
4.4	Teacher Availability.....	27
4.5	Teacher Collaboration	27
5	RESEARCH TASK.....	29
6	METHODOLOGY.....	31
6.1	Context of the Study	31
6.2	Participants	32
6.3	Data Collection.....	35
6.4	Instruments	35
6.4.1	School Motivation.....	35
6.4.2	Academic Self-Concept.....	36
6.4.3	Learning Environment and Teacher Availability	37
6.4.4	Co-Teacher Collaboration and Perceptions of Co-Teaching.....	37
6.5	Reliability	37

6.6	Data Analysis.....	41
7	RESULTS	42
7.1	School Motivation.....	42
7.2	Academic Achievement and Self-Concept.....	42
7.2.1	Grade Average	42
7.2.2	Academic Self-Concept.....	47
7.3	Learning Environment.....	49
7.3.1	Student Involvement.....	50
7.3.2	Student Cooperation	50
7.3.3	Student Equity.....	52
7.4	Teacher Availability.....	54
7.5	Co-Teacher Collaboration and Equity	55
7.6	General Perceptions of Co-Teaching.....	56
7.6.1	Learning and Positive Environment.....	56
7.6.2	Confusion in the Co-Taught Classroom.....	58
8	DISCUSSION	60
8.1	Analysis.....	60
8.1.1	Academic Self-Concept.....	60
8.1.2	Learning Environment.....	62
8.1.3	Teacher Availability	63
8.1.4	Co-Teachers' Collaborative Relationship.....	63
8.1.5	General Perceptions of Co-Teaching	64
8.2	Generalisability and Limitations	64
8.2.1	Study Design	64
8.2.2	Questionnaire and Instruments.....	66
8.3	Implications for Further Research	68

REFERENCES.....	71
APPENDICES.....	80

1 INTRODUCTION

In the global trend towards inclusive education, many challenges remain for schools and education systems worldwide to the effective implementation of equitable education for all. Indeed, providing inclusive instruction to heterogeneous groups of learners with unique needs is no easy task, and many teachers and schools struggle to not leave their most needy students behind. In response, co-teaching has been proposed as an effective method of bringing more resources to the inclusive classroom.

I had the opportunity to experience co-teaching in an inclusive secondary science classroom in Québec, Canada. I worked in collaboration with an experienced subject teacher to give lessons to a group of secondary II (8th grade) students that were giving teachers a hard time. During this experience, I perceived that the group seemed easier to manage than when I taught them on my own, that the content delivery seemed to be more efficient, and that student participation seemed to have increased. My experience was quite unique, though, in the sense that co-teaching is not a common practice in Québec's schools, which seems to be the case for Finland as well. I therefore was curious to further research the effects of co-teaching in the inclusive classroom.

Co-teaching is particularly relevant in the Finnish context. The practice is recommended in the *National Core Curriculum for Basic Education 2014* (Finnish National Board of Education [FNBE], 2015) as a means of providing support to inclusive classroom students, and there seems to be a growing interest for co-teaching in Finnish educational research.

Student perceptions are an important tool in order to assess the effectiveness of educational practice. By examining students' perceptions of co-teaching practices, valuable insights into the relevance of co-teaching in inclusive classrooms should surface. The current study therefore seeks a broad picture of how students perceive the potential benefits of co-teaching for their studies. The

study aims to uncover students' feelings in general, and in particular regarding their perception of academic achievement, of teacher availability, of the learning environment and of the co-teachers' collaborative relationship in a co-taught classroom.

The concepts of inclusive education and co-teaching are presented in Chapter 2. Chapter 3 introduces the implementation of inclusive education and co-teaching in the context of Finland. The theoretical outcomes of co-teaching are further examined in Chapter 4. The research task is detailed in Chapter 5, and the research methods are described in Chapter 6. Finally, the results of the study are presented in Chapter 7 and discussed in Chapter 8.

2 INCLUSIVE EDUCATION AND CO-TEACHING

2.1 Inclusive Education

Much emphasis has been placed on inclusive education by the global education community over the last few decades. This movement is the result of several important international accords, in which nations around the world have committed to the adoption and safeguard of common values and principles regarding education. In particular, the parties to the *Convention on the Rights of the Child* drafted by the United Nations General Assembly (UNGA, 1989) recognised education as a right of every child (art. 28). They furthermore agreed on the importance of making education accessible to children with disabilities (art. 23). Another significant international framework was signed in Salamanca by member states of the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 1994), which urged governments to “improve their education systems to enable them to include all children regardless of individual differences or difficulties” (p. ix). The *Convention on the Rights of Persons with Disabilities* (UNGA, 2006) stated that “on the basis of equal opportunity, States Parties shall ensure an inclusive education system at all levels” (art. 24, para. 1). In addition, the signatories expressed their commitment to ensure the provision of individualised support for students with disabilities to “maximize academic and social development, consistent with the goal of full inclusion” (art. 24, para. 2).

Inclusive education aims to allow students of all backgrounds and abilities to learn in the same “mainstream” classroom. Inclusive schools are required to recognize their students’ needs and to provide them with the support that is necessary for their learning (UNESCO, 1994, pp. 11-12). Inclusive education has been presented as “the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all” (p. ix). Ainscow (2005) proposed a four-part defini-

tion of inclusion based on comparative research in different education systems. First, inclusive education is defined as a *process*, as it requires that education systems engage in the continuous learning of how to cater to the diversity of students. The second aspect of inclusion in education is its focus on discovering and eliminating *barriers* to full participation of individuals in school by adapting educational practices and policies. As a third consideration, the author advanced that all students in inclusive classrooms should be *present* in school, they should actively *participate* in their education and they should *achieve* significant learning outcomes. The fourth element of Ainscow's inclusive education definition is that extra care is taken to ensure the full participation of the students who are most at risk of being excluded or of experiencing school failure (pp. 118–119).

Although the global conversation emphasises inclusion as a response to the diversity of all students, many still believe it to be aimed specifically at special educational needs (SEN) students (Ainscow, 2005, p. 109). Students with special educational needs are defined as follows in the Finnish *National Core Curriculum for Basic Education 2004* (FNBE, 2004, p. 26):

Pupils whose prerequisites for growth, development, and learning have been weakened by a disability, sickness, or deficit need special instructional support. Pupils who need psychological or social support also fall within the sphere of special support, as do pupils whose development faces learning-related risk factors.

Although much of the push for inclusive education has been driven by the ideals behind it, some research evidence also defends the legitimacy of inclusion as an effective educational practice. For instance, an analysis of three meta-studies conducted by Baker, Wang and Walberg (1994) concluded that “special-needs students educated in regular classes do better academically and socially than comparable students in noninclusive settings” (p. 34). Farrell, Dyson, Polat, Hutcheson and Gallannaugh (2007) found that variables related to the schools' environment and students' social background bore far greater importance on UK students' achievement than whether they were placed in inclusive classrooms (pp. 175–177). Furthermore, in a review of research on inclusive education, Kalambouka, Farrell, Dyson and Kaplan (2007) determined that the inclu-

sion of SEN students in mainstream classrooms did not negatively affect the achievement of their peers without special educational needs (p. 376). Vaughn, Elbaum, Schumm and Hughes (1998) compared student outcomes in different inclusion programs and found that SEN students had developed friendships with their inclusive classroom peers. Inclusive classroom placement had also boosted SEN students' self-concepts (p. 434).

In addition, two Norwegian studies examined the impact of special education placement on students' social integration during their adulthood. According to Myklebust and Båtevik (2009), classroom placement both directly and indirectly affected the success of former students in pursuing further schooling, obtaining a driver's licence and finding employment. Former inclusive classroom students were favoured whereas special classroom placement had a detrimental effect (p. 211). Kvalsund and Bele (2010) also determined that special class placement was correlated to social exclusion and marginalisation in early adulthood, as opposed to mainstream classroom placement, which proved to be beneficial (p. 28). In defence of inclusive education, they argued that "mainstream classes provide practice in the youth cultural competence of building relationships. Having friends of one's own age is vital, and, in this respect, ordinary mainstream classes have far more potential compared with special classes" (p. 29).

Finally, in a meta-synthesis of student perceptions of inclusion, Klingner and Vaughn (1999) summarised students' desire to be treated equally (p. 35):

Students with learning disabilities want to be involved in the same activities, read the same books, have the same homework, be judged with the same grading criteria, and be part of the same groups as their classmates. Their peers without disabilities agree, believing that this is what is most fair.

Students also reported that they were open to adaptations for SEN students in the inclusive classroom and perceived them as potentially beneficial for all (p. 34).

However, the push for inclusive education has been met with some criticism. Many argue that the achievement of full inclusion, that is the education of each and every student in mainstream classrooms, is a practical impossibility

due to the existence of a minority of students for whom inclusion will never be a viable option (Hornby, 2015). In a review of Imray and Colley's *Inclusion is dead: long live inclusion* (2017), Kauffman (2017) considers that "expecting general education teachers to meet the educational needs of literally all students in a catchment area is abusive of teachers" (p. 2). Other research has found that teachers are unprepared to teach SEN students in inclusive classrooms (Hornby, 2015) and that inclusion has widely been implemented all the while cutting necessary resources from schools (Kauffman, 2017). Both Hornby (2015) and Kauffman (2017) agree that inclusion advocates' widely cited "right" of students to be educated in the same classroom is misguided, and argue that providing education that meets each student's needs should be prioritised over mainstream classroom placement. They explain that a common learning space and a common curriculum for all students simply cannot take the diverse needs of all students into consideration. Instead, such unsuitable inclusive education can potentially lead to the development or exacerbation of learning difficulties in students, it can hinder students' inclusion in society as adults (Hornby, 2015), and it especially fails at helping students with severe disabilities achieve realistic educational goals (Kauffman, 2017).

In response to the criticisms of inclusive education and more specifically of full inclusion, some researchers have proposed a solution that reconciles the values and practices of inclusion with those of special education. Hornby (2015) describes such an approach, which has been named *inclusive special education*, and which aims to educate students "in the most inclusive settings in which their special educational needs can be met effectively . . . with the overarching goal of facilitating the highest level of inclusion in society post-school" (p. 239). In inclusive special education, providing students with an education adapted to their needs and consisting of evidence-based practices is deemed more important than the ultimate goal of full inclusion in school. Therefore, not only should there be a broad spectrum of special educational placement opportunities ranging from mainstream classes to special classes, but students should also be able to move between these placements as their needs evolve. Inclusive spe-

cial education relies on the identification of SEN in order to provide students with individualised plans and similar measures of support. Curricula can be adapted in order to ensure that students are able to meet realistic goals and develop important skills for future inclusion in society. Close collaboration between the teachers and professionals of these different educational environments is therefore vital to the success of inclusive special education. In this way, the expertise of special needs educators is also available to the mainstream classroom (Hornby, 2015).

Regardless of the approach different education systems take in implementing inclusive and special education, effective educational practices remain key to meeting the diverse needs of all students. Indeed, upon reviewing research on inclusive education, Savolainen (2009) concluded that teaching methods and student-teacher interaction likely play a more vital role in bringing about significant learning than does the actual setting of the classroom. Therefore, effective instructional methods that combine teachers' expertise and enable all students to learn should be brought to every classroom – such as co-teaching, which is defined in the following section.

2.2 Co-Teaching

In light of the many challenges that arise in implementing inclusive education policies and practices, co-teaching has been suggested as a strategy for teachers and students to benefit from extra support that may be required. Many definitions of collaborative teaching practices (*cooperative teaching* or *co-teaching*) have been proposed in educational literature. For example, Bauwens, Hourcade and Friend (1989) defined cooperative teaching as “an educational approach in which general and special educators work in a coactive and coordinated fashion to jointly teach academically and behaviorally heterogeneous groups of students in educationally integrated settings” (p. 198). According to them, the teachers' roles during co-teaching are determined by performance-based assessments of their teaching skills and areas of expertise. Similarly, Cook and

Friend (1995) defined co-teaching as “two or more professionals delivering substantive instruction to a diverse, or blended, group of students in a single physical space”. They further specified four main components to co-teaching: (a) two educators, sometimes more, usually one general educator and one special needs educator; (b) the educators deliver substantive instruction; (c) to a diverse (inclusive) group of students; (d) in a single physical space (Cook & Friend, 1995). Other definitions allow for co-teaching to be planned and assessed together but delivered in separate spaces (Ahtiainen, Beirad, Hautamäki, Hilasvuori, & Thuneberg, 2011, p. 18). Ideally, each co-teacher should have a different area of expertise to provide students with instruction they would not receive with only one teacher (Bauwens et al., 1989; Pearl and Miller, 2007, as cited in King-Sears, Brawand, Jenkins, & Preston-Smith, 2014). Both educators should share equal responsibilities in the co-taught classroom (King-Sears et al., 2014), all the while adapting their roles according to their skills (Bauwens et al., 1989).

Cook and Friend (1995) also defined five distinct co-teaching approaches based on the roles adopted by the teachers: *One Teaching, One Assisting; Station Teaching, Parallel Teaching, Alternative Teaching* and *Team Teaching*. In the first approach, one teacher takes on a leading role in regards to instruction while the second teacher mainly performs observation and individual assistance to students when needed, hence the expression “one teaching, one assisting”. While this approach requires little planning and provides good support to students, a negative effect can be observed on the assisting teacher’s authority as perceived by the students if the teachers do not periodically exchange roles.

In the station teaching approach, the teachers each lead separate activities with parts of the group of students, all the while remaining in the same classroom or learning environment. After a predetermined time, the teachers exchange student groups. A smaller teacher-student ratio and the opportunity to integrate SEN students in the different groups are the main benefits of the station approach, but that a high level of noise and management of transitions can present a challenge.

Parallel teaching also involves dividing a group between teachers, the difference being that the teachers plan the same lesson together and deliver the same content to their respective groups of students. It presents the advantage of reducing the ratio of students per teacher, and can provide the opportunity of giving students different perspectives on a same topic in order to fuel a follow-up discussion. As with teaching in stations, noise management is a potential drawback of the parallel approach.

The alternative teaching approach occurs when instruction is given to a small group of students by one teacher simultaneously as the larger group receives instruction from the other teacher. It is primarily aimed at SEN students who benefit from small group instruction as it allows for preparatory or remedial teaching while avoiding pull-out solutions. However, all inclusive classroom students should occasionally participate in the smaller group so as not to stigmatize SEN students who would benefit from more frequent small group teaching.

Finally, team teaching consists of both teachers sharing equal responsibility for instruction to a whole group. For instance, "the teachers might take turns leading a discussion, or one may speak while the other demonstrates a concept, or one might speak while the other models note taking on a projection system". Good chemistry is required between the teachers for this approach to be successful (Cook & Friend, 1995).

3 THE CASE OF FINLAND

3.1 Inclusion and Special Needs Education

Compulsory education in Finland consists mainly of a nine-year basic education syllabus for students aged 7 to 16, and it is provided in public comprehensive schools. Fewer than 2% of basic schools in Finland are private (FNBE, 2016b). Instruction is provided for free to every child along with all required books and materials. Additionally, all necessary materials and services are guaranteed for SEN students (Basic Education Act [628/1998], 2011, §§ 9, 25, 31). Primary education (grades 1 to 6) is mostly taught by generalist *class teachers*, and lower secondary education (grades 7 to 9) is provided by specialist *subject teachers*. Special needs education is overseen by *special needs teachers* (Perusopetusasetus [852/1998], 2016, §1). As per the *Teaching Qualifications Decree (Asetus opetustoimen henkilöstön kelpoisuusvaatimuksista)*, all basic education teachers in Finland are required to have completed a master's degree (986/1998, 2016, §§ 4, 5, 8).

As a signatory of the *Convention on the Rights of the Child*, the *Salamanca Statement and Framework for Action on Special Needs Education* and the *Convention on the Rights of Persons with Disabilities*, Finland has adopted policies promoting inclusive education (FNBE, 2011, p. 6). The *Basic Education Act (628/1998, 2011)* states the objectives of compulsory education, one of which is to promote and ensure equality within Finnish society (§ 2). The *National Core Curriculum for Basic Education 2004* (FNBE, 2004) describes the guiding values and principles of the Finnish basic education, which include those of human rights, equality, and diversity. It further states that basic education “helps to increase . . . equality among individuals” and that “the diversity of learners is taken into consideration” (FNBE, 2004, p. 12). In practice, these policies are implemented following an approach similar to that of inclusive special education as described by Hornby (2015).

Special needs education in comprehensive schools is integrated into a system of *support for learning and schooling*, which was introduced in 2010 as part of a series of amendments to the *National Core Curriculum* (FNBE, 2011). It was accompanied by an amendment to the *Basic Education Act* stating that support for learning and schooling must be provided immediately to any student in apparent need (p. 10). The Finnish *support for learning and schooling* is similar to *Responsiveness to Intervention* (RTI), a model of inclusive support developed in the United States which aims at detecting difficulties in learning rather than labeling students with disabilities (Fuchs, Mock, Morgan, & Young, 2003; Malinen, Rytivaara, & Kontinen, 2015). The basic idea of RTI is to continuously assess students' performance during general instruction and to provide them with appropriate extra support when needed, following a multi-level (or *multi-tiered*) progression (Fuchs et al., 2003, p. 159). The Finnish model emphasises early intervention and consists of three levels of support: *general support*, *intensified support* and *special support*. The transition from one level of support to the next is decided in a collaborative process that involves teachers, parents and other school professionals. The student's need for support is regularly re-evaluated and necessary adjustments are made (FNBE, 2011). Support can be provided broadly or focus on specific subjects or skill areas (Björn, Aro, Koponen, Fuchs, & Fuchs, 2016).

In contrast to the U.S. implementation of RTI, the Finnish support for learning and schooling framework relies less on research-based interventions and does not provide criteria for the diagnosis of learning disabilities. Few guidelines regarding the expected content and duration of support measures are provided, and municipalities and schools enjoy much autonomy in establishing their own local practices. However, special education is included in all three levels of the support system, thus helping to prevent the further development of learning difficulties at an early stage (Björn et al., 2016). Special needs teachers are involved in planning, teaching and assessment at every level in collaboration with general education teachers (Takala, Pirttimaa, & Törmänen, 2009; Björn et al., 2016). As Malinen et al. (2015) point out, the model

allows for inclusion of students in the mainstream classroom almost all the time, even when receiving special support (p. 104). Part-time special education, which was in place in Finland prior to the introduction of the RTI-inspired model, also worked towards reducing student labeling and providing support to mainstream classroom students (Savolainen, 2009, p. 287), although Takala et al. (2009) argued that pulling students out of classrooms for special needs education is a form of segregation (p. 170). Nowadays, most students who would have previously been pulled out are included in the mainstream classroom (Björn et al., 2016).

General support, the first level of the Finnish multi-tiered model, refers to the responsibility of the teacher to provide general instruction that considers the diversity of his students through differentiation. Emphasis is placed on the development of students' autonomy with regards to their learning. Collaborative teaching, flexible teaching groups and remedial teaching (such as after-school tutoring) are suggested as means of providing general support, and part-time special needs education can be used as well (FNBE, 2011, pp. 12–13).

Intensified support is provided to a particular student after assessing that the measures of general support in place are sufficient for most of the class, but do not meet the student's needs. A *learning plan* is prepared for the student, in which the measures of support are described and personal objectives are set. Intensified support is mainly provided through individual guidance, flexible teaching groups and part-time special needs education (FNBE, 2011, pp. 13–14; Malinen et al., 2015, p. 103).

If the intensified support a student receives is deemed insufficient, a written assessment of the student's needs is prepared and an administrative decision is made by a multiprofessional school team, after which special support can be provided. The curriculum is individualised for the student according to an *Individual Education Plan* (IEP) and special needs education becomes the main strategy for support (FNBE, 2011, pp. 15–17).

The provision of special support in basic education in Finland has seen a decrease of 0.8% between 2011 and 2015, and schools have been favouring the

use of intensified support, which increased by 5.2% in the same timespan. In 2015, 8.5% of students in grades 1 to 9 received intensified support and 7.3% received special support. Although full-time special class placement during basic education has decreased from 40.6% to 39.0%, fewer special support students received full-time instruction in mainstream classes in 2015 (18.8%) than in 2011 (21.2%) (Education Statistics Finland, 2016b).

3.2 Co-Teaching in Finland

Co-teaching has been proposed as a pedagogical tool to improve the provision of general, intensified and special support in basic schools in the *Amendments and Additions to the National Core Curriculum for Basic Education 2010* (FNBE, 2011, pp. 19–22), and more specifically as a method of providing both remedial teaching and part-time special needs education (pp. 24–26). Indeed, Takala et al. (2009) attributed the widespread use of pull-out special needs education to a lack of opportunities for teacher collaboration (p. 170). The practice of co-teaching is further encouraged in the renewed *National Core Curriculum for Basic Education 2014* (FNBE, 2015), as it emphasises the importance of collaboration and teamwork within schools as a part of a supportive environment for learning and well-being (p. 36). Interest in co-teaching has seen a significant increase in Finnish educational research. For instance, a pilot study of the implementation of co-teaching was conducted in Helsinki schools in 2010 (Ahtiainen et al., 2011), and results of different experimental co-teaching implementations in primary schools (see Malinen et al., 2015) and lower secondary schools (see Saarenketo, 2011) around Finland have been shared. In addition, two co-teaching guidebooks aimed at teachers were published while the present study was being conducted (see Pulkkinen & Rytivaara, 2015; Saloviita, 2016).

Despite the increased promotion of collaborative teaching, the occurrence of such practices in Finnish schools has remained low. A 2006 survey of special needs teachers in the Capital Region of Finland found that they spent on average 7% to 13% of their monthly working time on collaborative teaching (Takala

et al., 2009, p. 165). In 2010, Saloviita and Takala (2010) measured the occurrence of co-teaching in comprehensive schools of Helsinki. Over half of the participating special needs teachers took part in co-teaching every week, yet only 16% of their time was dedicated to the practice. Among the general educators, 34% of class teachers and 16% of subject teachers co-taught on a weekly basis (pp. 392–393). In the same year, Pulkkinen and Rytivaara (2015) gathered statistics on co-teaching in Central Finland. They found that 22% of special needs teachers were involved in weekly co-teaching with class teachers and 15% of them partnered weekly with subject teachers. 14% of class teachers paired with another class teacher on a weekly basis, whereas 11% co-taught weekly with special needs teachers. Only 3% of subject teachers shared instruction with special needs teachers weekly and 4% partnered with another subject teacher every week (Pulkkinen & Rytivaara, 2015, p. 5). Although a pilot study was conducted in Helsinki in 2010, during which co-teaching was implemented in several schools with the goal of providing models to inspire others in doing the same (Ahtinen et al., 2011, pp. 63–64), a follow-up study on the development of co-teaching in four Helsinki schools showed no increase in the occurrence of the practice from 2010 to 2011 (Takala & Uusitalo-Malmivaara, 2012).

Co-teaching partnerships in Finnish comprehensive schools usually consist of a class or subject teacher and a special needs teacher, or of two class teachers (Pulkkinen & Rytivaara, 2015, p. 5). Many schools also employ *special needs assistants*, who do not have the training nor the legal authority of teachers (FNBE, 2016a). For the purpose of this study, they were not considered as co-teachers.

4 OUTCOMES OF CO-TEACHING

4.1 Overview

Bauwens et al. (1989) argued that in general, classroom or subject teachers possess good knowledge of curriculum content and are skillful at managing large classes, whereas special needs educators tend to excel at anticipating difficulties, differentiation of teaching as well as understanding behaviour. Both types of educators together could therefore bring a significant and broad skillset to the inclusive classroom. According to them, co-teaching practices facilitate the transition of SEN students from special to inclusive classrooms, and in the long term, they allow for early intervention, thus reducing the need to pull SEN students out of the inclusive classroom for remedial instruction. Cook and Friend (1995) presented similar arguments in favour of co-teaching. Collaborative teaching practices increase the diversity of instruction for all the students of an inclusive classroom (i.e. different ways of teaching for different ways of learning), they help deliver more content and increase student engagement, and they help reduce the stigmatization that comes with pulling SEN students out of the mainstream classroom. Co-teaching also provides teachers and school professionals with better mutual support. According to Walsh and Snyder (1993), co-teaching should facilitate the differentiation of instruction in the mainstream classroom (p. 5).

However, more is known about the benefits of collaborative teaching for teachers than for students (Van Garderen, Stormont, & Goel, 2012). Co-teaching is viewed by some special needs teachers as a means of providing quality instruction to all students of the inclusive classroom (Saarenketo, 2011), and some feel that co-taught classes are more adequately designed (Takala et al., 2009, p. 167). Saarenketo (2016) perceived that students were given more appropriate learning goals during co-teaching (p. 99). Ahtiainen et al. (2011) reported that the planning, realisation and assessment of teaching in collaborative settings

were valued by both teachers and principals, who believed that co-teaching makes students feel safe and allows for individualised support (pp. 62–63).

Students have been found to perceive better academic assistance and more teacher attention in co-taught settings (Hang & Rabren, 2009). Teachers feel that co-teaching improves academic performance and social skills (Hang & Rabren, 2009; Van Garderen et al., 2012) and encourages students to collaborate more (Scruggs, Mastropieri, & McDuffie, 2007, p. 401). Co-teaching can also play a part in reducing discrimination between students: for instance, both Malinen et al. (2015) and Saarenketo (2011) observed that co-taught students were unaware of which of their peers were following an individualised syllabus. While some studies have shown better academic performance associated with co-teaching (Hang & Rabren, 2009; Jang, 2006), other researchers have found only a moderate effect on student outcomes, and further research needs to be conducted (Murawski & Swanson, 2001; Saloviita, 2016; Tremblay, 2013; Van Garderen et al., 2012).

In theory, co-teaching should allow for early intervention, thus reducing the need to pull SEN students out of the inclusive classroom for remedial instruction (Bauwens et al., 1989; Cook & Friend, 1995; Saarenketo, 2011). However, in a recent comparative study on co-teaching, it was noted that co-taught instruction seemed to move at a quicker pace than segregated special needs education and that as a consequence, 25% of SEN students were pulled out of the inclusive classroom for remedial instruction at some point (Tremblay, 2013). Students with learning disabilities also expressed that instruction was better tailored (slower pace, smaller amount of work) for them in a special needs education class than in a co-taught class (Leafstedt, Richards, LaMonte, & Cassidy, 2007).

4.2 Academic Achievement

According to Solis, Vaughn, Swanson and McCulley (2012), proper implementation of co-teaching should positively affect students' academic achievement

(p. 507). Students with and without SEN associated co-teaching with more learning and harder work (Klingner, Vaughn, Schumm, Cohen, & Forgan, 1998, p. 153; Pugach & Wesson, 1995, p. 283). Finnish secondary school students also reported learning more during co-taught chemistry lessons (Karhunen, 2014, p. 45).

Murawski (2006) examined the academic performance of students in a comparative study of co-taught and non-co-taught 9th grade English classes. The grade average of students without identified special needs showed slight improvement in the non-co-taught setting, but not in the co-taught class (p. 236). Co-taught SEN students, however, slightly improved their grades. Overall, the academic performance of co-taught students was not found to be significantly better than that of non-co-taught students (p. 237). Murawski observed that the differences in teachers' methods may have had a stronger effect on student outcomes than whether they were co-taught. The co-teachers did not seem to emphasise the development of skills for reading and writing (p. 239), nor did they vary nor adapt their teaching. Murawski observed that teachers mostly taught the whole group, that teaching was not often differentiated and that the same methods of instruction and evaluation were used in the co-taught and non-co-taught classrooms. Furthermore, she found no difference in behaviour management and observed that the special needs teacher mostly assisted students individually during co-teaching (p. 240).

In a comparative study of middle school SEN students in inclusive and non-inclusive schools, Rea, McLaughlin and Walther-Thomas (2002) found that students in a co-taught inclusive setting achieved higher course grades and that their tests results were equivalent or better than those of students in pull-out special education. There was also significantly less absenteeism in the inclusive school (pp. 213–116). They attributed the results to the collaborative teaching and planning that took place in the inclusive school, which according to the researchers lead SEN students to achieve academically as well as improve their behaviour. The multidisciplinary teacher partnerships resulted in carefully planned support measures in the classrooms and individual education plans for

students that aimed at achieving the targets of the general curriculum (p. 220). In another comparison of co-taught and non-co-taught 9th grade classes, Walsh and Snyder (1993) found little to no difference in the grades of both groups of students in a broad range of subjects, but co-taught students performed better in a series of standardised tests (pp. 9–10). Tremblay (2013) came to similar conclusions in a study of early primary school SEN students, finding the co-taught setting to be slightly more effective than pull-out special education.

Klingner, Vaughn, Hughes, Schumm and Elbaum (1998) also studied academic achievement of students in an inclusive primary school, some of which were co-taught. Overall, 82% of participating students improved their performance in math and reading, and most SEN students showed improvement in reading (p. 157). However, some SEN students failed to progress, which the researchers attributed to the fact that the instruction was not adapted to address severe deficiencies in reading skills (p. 159). Well-performing students showed improvement despite the inclusion of lower-achieving students and students with SEN in their classrooms (p. 159). The researchers highlighted that a lack of information on how support for SEN students is provided in mainstream classrooms can often be a challenge for research on the outcomes of inclusive education (p. 153).

4.3 Learning Environment

Co-teaching is perceived by teachers and students to improve the learning environment as well as students' behaviour (Gerber & Popp, 1999; King-Sears et al., 2014; Rytivaara, 2012; Strogilos & Avramidis, 2014; Wilson & Michaels, 2006). According to Malinen et al. (2005), "co-teaching makes it possible to use more diverse, activating and experiential teaching methods, which make the pupils more motivated to learn and study" (p. 113).

The learning environment refers to "the entirety of the learning-related physical environment, psychological factors and social relationships" (FNBE, 2004, p. 16). In a study by Pugach and Wesson (1995), fifth grade co-taught stu-

dents had developed positive self-image and good social relationships with their peers and teachers during co-teaching. The students described the learning environment of their co-taught classroom as “exciting, stimulating, comfortable, and safe” (p. 283). Finnish lower secondary school students also felt that the classroom atmosphere was safer and more relaxed during co-teaching (Karhunen, 2014, p. 45).

Klingner and Vaughn (1999) found that inclusive classroom students were critical of teachers who spent too much time managing disruptive behaviour (p. 32). Murawski (2006) observed that teachers spent significantly less time on behaviour management during co-teaching (p. 241) and teachers felt that co-teaching reduces the stress of managing behaviour (Rytivaara, 2012; Saarenketo, 2011). According to Saarenketo (2016), the immediate support that was available to students through co-teaching reduced the occurrence of disruptive behaviours (p. 99), and students reported being more focused since there was no need to wait for teachers’ attention (Karhunen, 2014, p. 47). Students also observed that two teachers responded faster to disruptions than one (pp. 47–48). In addition, teachers perceived that peers acted as behaviour models for disruptive students in the co-taught classroom (Malinen et al., 2015; Scruggs et al., 2007, p. 402).

However, a study by Hang and Rabren (2009) found that students’ behaviour actually worsened after a year of co-teaching. Some students with learning disabilities reported that the larger size of the inclusive classroom provided a greater number of distractions that were detrimental to their learning (Leafstedt et al., 2007) and others noted that it was easier to concentrate in a pull-out special education class due to the mainstream classroom being too noisy (Klingner, Vaughn, Schumm et al., 1998, p. 153; Scruggs et al., 2007, p. 402). Other students also stated that simultaneous interventions by the two co-teachers could be disturbing (Wilson & Michaels, 2006).

4.4 Teacher Availability

Co-teaching has been associated with increased teacher availability for students during class time (Hang & Rabren, 2009; Scruggs et al., 2007; Takala & Uusitalo-Malmivaara, 2012; Wilson & Michaels, 2006). Co-teachers have often reported being able to provide more support to students than when teaching alone (Ahtiainen et al., 2011, p. 37; Saarenketo, 2011; Takala et al., 2009, p. 167), and that the presence of an extra teacher allowed for better guidance without interfering with the rest of the class (Saarenketo, 2016, p. 99; Saloviita, 2016 p. 156; Scruggs et al., 2007, p. 402). In a comparison of models of co-taught inclusion and pull-out special education (Klingner, Vaughn, Schumm et al., 1998), students reported receiving more help in the presence of two teachers. In particular, SEN students perceived that the extra support provided to them in the co-taught setting was sufficient to meet their needs (p. 153). Students also offered positive perceptions of co-teaching in a case study of a co-taught inquiry-based chemistry class in a Finnish lower secondary school conducted by Karhunen (2014). In their view, co-teachers had more time for students and were able to provide help faster than one teacher alone. In addition, they provided more individualised feedback (pp. 44–47).

Yet other research has found that students with disabilities did not perceive receiving more attention from their teachers; rather, they complained of having less access to either co-teacher, and of the decrease of opportunities for individual teaching or instruction in small groups (Leafstedt et al., 2007).

4.5 Teacher Collaboration

Collaboration between general and special education teachers can potentially be beneficial for SEN students' learning (Van Garderen et al., 2012). According to Rea et al. (2002), it is important that teachers “develop effective instructional and interpersonal skills to work with colleagues in the development and delivery of classroom-based services for students with disabilities” (p. 220). A good

collaborative relationship is fundamental for effective co-teaching (Bauwens et al., 1989; Cook & Friend, 1995; Murawski & Lochner, 2011).

However, confusion about teachers' roles during co-teaching is often an important problem for teachers (Hang & Rabren, 2009; Takala & Uusitalo-Malmivaara, 2012) as well as for students (Embury & Kroeger, 2012). Students sometimes perceive that the extra teacher in the classroom is useless or works as an assistant rather than a teacher (Embury & Kroeger, 2012, Karhunen, 2014). Indeed, "one teaching, one assisting" has been found to be the most used method of co-teaching (Scruggs et al., 2007), and special needs teachers often found themselves in the assistant's role due to a lack of collaborative planning time (Ahtiainen et al., 2011, p. 38; Saloviita, 2016, p. 152; Takala et al., 2009, p. 167). Furthermore, research has shown that teachers are not always successful at establishing a working collaborative relationship, in particular when co-teaching practices have been imposed on them by administrators (Scruggs et al., 2007).

Despite the perceived advantages of having two co-teachers who can supplement each other's explanations (Karhunen, 2014), some students have expressed feeling confusion or receiving mixed messages when co-teachers give contradictory instructions or lack coordination (Gerber & Popp, 1999; Karhunen, 2014; Pugach & Wesson, 1995; Wilson & Michaels, 2006), and it is sometimes difficult for students to pick out the important information from both co-teachers' speech (Karhunen, 2014, p. 51).

5 RESEARCH TASK

Student perceptions of teaching practices are strongly correlated to motivation and achievement (King, 2003; Weinberger & McCombs, 2003; Wentzel, 1997). Research has shown that students as young as primary school children are capable of identifying teaching practices that lead to significant learning (Daniels, Kalkman, & McCombs, 2001). As summarised by Klingner and Vaughn (1999), considering students' perceptions can boost their involvement and motivation. If students are to be made responsible for their own learning, their views should also be considered. In addition, students can consistently identify and describe teachers' behaviours and are capable of rationalising their perceptions. Students are also extremely aware of whether they are treated differently by their teacher (p. 24). In relation to co-teaching, Klingner, Vaughn, Schumm, et al. (1998) suggested that "as the recipients of services in inclusive classrooms, students are in a position to judge firsthand the effectiveness of the partnership between general and special education" (p. 149). Therefore, student perceptions can be considered as an important indicator of the efficacy of co-teaching.

However, most studies that have considered students' perspectives of co-teaching have focused strictly on SEN students as opposed to all students of an inclusive classroom (Hang & Rabren, 2009; King-Sears et al., 2014; Leafstedt et al., 2007; Magiera & Zigmond, 2005; Strogilos & Avramidis, 2014; Tremblay, 2013). Yet if co-teaching is a practice to be implemented in inclusive classrooms, the perceptions of students without identified special educational needs is just as valuable in determining the outcomes of this approach.

This study therefore hopes to examine the perceptions of a diversity of students from co-taught classrooms, in an effort to provide better tools to teachers and students in the inclusive classroom. The following questions will be addressed:

1. What kind of academic self-concept do co-taught inclusive classroom students report in comparison with non-co-taught students?

2. What kind of learning environment do co-taught inclusive classroom students report in comparison with non-co-taught students?
3. What kind of teacher availability do co-taught inclusive classroom students report in comparison with non-co-taught students?
4. What kind of collaborative relationship between co-teachers do co-taught students perceive?
5. What are inclusive classroom students' general perceptions of co-teaching?

6 METHODOLOGY

6.1 Context of the Study

Quantitative methodology was selected for a descriptive study of inclusive classroom students' perceptions of co-teaching. Survey research was conducted in co-taught and non-co-taught inclusive lower secondary classrooms in a convenience sample of two urban schools in Central Finland.

Central Finland is the 5th most populous region of Finland, consisting of 23 municipalities. As of 2015, 27,026 students were enrolled in basic school (grades 1 to 9) in Central Finland, which represents 5% of all Finnish basic school students. 49% of the region's basic school students were female and male students accounted for 51% (Education Statistics Finland, 2016a). In 2015, 9% of basic school students in Central Finland received intensified support and 5% special support. Less than 3% of basic school students in Central Finland studied in a language other than the official languages of Finland (Finnish, Swedish, Sami, Romani or Finnish Sign Language) (Education Statistics Finland, 2016b).

School A is an urban comprehensive school (grades 1 to 9) of over 500 students. Practically all the students from 7th to 9th grade are co-taught in at least one subject. The school's special needs teachers collaborate with subject teachers mainly in mathematics and language classes (Finnish, Swedish and English). The co-teaching model in School A has been in place for almost ten years and the co-teachers have developed efficient partnerships. Teachers observed that the most used method in the 7th and 8th grades was team teaching, whereas in the 9th grade parallel forms of co-teaching were favoured. In team teaching, special needs teachers also played an important role in teaching content, often summarizing information or explaining it in a new way.

School B is an urban lower secondary school (grades 7 to 9) of approximately 400 students. In addition to the regular curriculum, the school offers some instruction in English as well as preparatory courses for immigrant stu-

dents. Co-teaching is less common in School B, as only one special needs teacher is actively involved in collaborative teaching with subject teachers. Co-teaching is mainly conducted in 8th grade mathematics (approx. 8h/week) and mother tongue and literature (approx. 2h/week). The co-teachers most frequently use the team teaching and “one teaching, one assisting” methods of co-teaching.

6.2 Participants

A total of 226 lower secondary school students from two urban schools in Central Finland participated in the study. Students across all three lower secondary grade levels were included in order to compare their experiences, as older students have generally had more experience with co-teaching than younger students. As shown in Figure 1, the sample consisted of 83 (37%) seventh graders, 84 (37%) eighth graders and 59 (26%) ninth graders. 101 (45%) students were female, 123 (54%) were male and 2 (1%) did not provide information on gender.

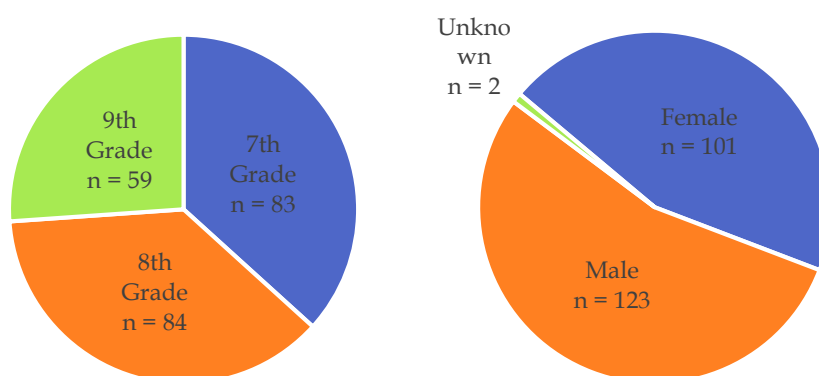


FIGURE 1. Distribution of Students by Grade and Gender

The sample consisted of students with varying experiences of co-teaching, as represented in Figure 2. Indeed, 195 students (86%) had experienced co-teaching in at least one class, whereas 31 students (14%) had not. Two students in five were co-taught in two subjects.

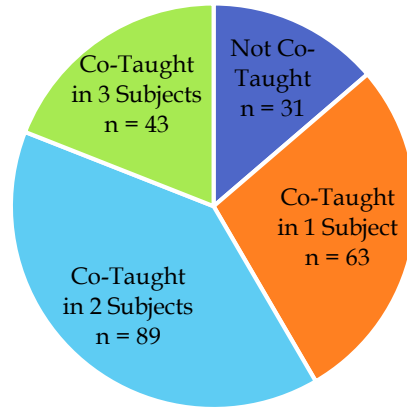


FIGURE 2. Distribution of Students by Number of Co-Taught Classes

Participating students were surveyed about their experiences of co-teaching in their mathematics, mother tongue and literature (MTL) and English as a foreign language (EFL) classes. As displayed in Figure 3, the majority of EFL classes were co-taught, whereas mathematics classes were mostly not co-taught. 88 students (39%) were co-taught in mathematics, 119 students (53%) were co-taught in MTL and 163 students (72%) were co-taught in EFL.

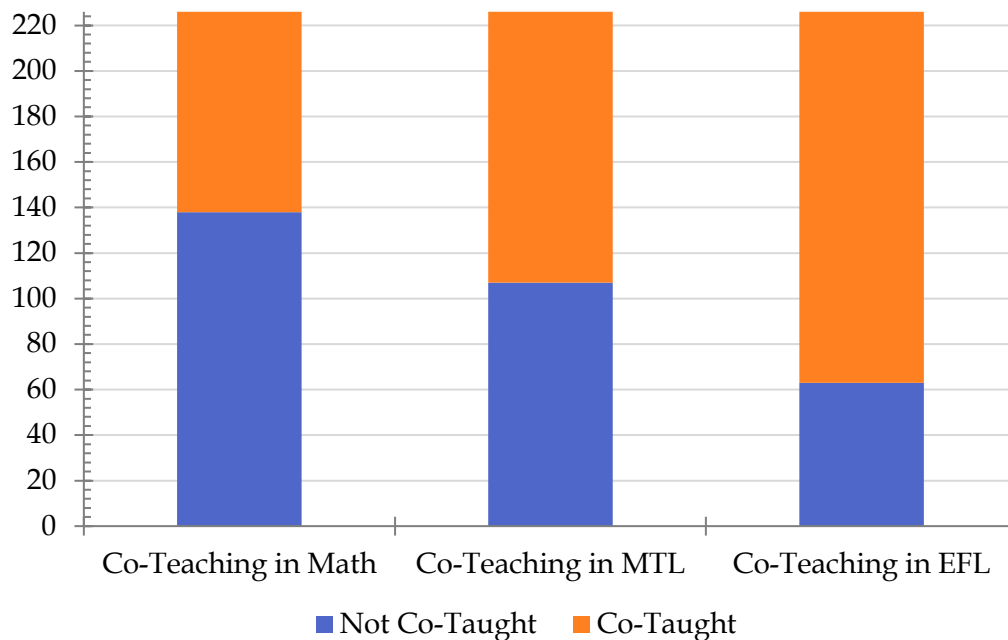


FIGURE 3. Distribution of Co-Taught and Non-Co-Taught Students

Typical inclusive classrooms were sought out, as the diversity of students' needs and backgrounds was important to the study. Students therefore reported the level of support for learning and schooling they received. Overall, 35 students (15%) reported receiving either intensified or special support in at least one subject. 11 students (5%) did not provide information on whether they received support. As shown in Figure 4, SEN students were in greater numbers in classes that were co-taught than in those that were not. 27 (31%) of the students co-taught in mathematics, 24 (20%) of the students co-taught in MTL and 28 (17%) of the students co-taught in EFL received either intensified or special support.

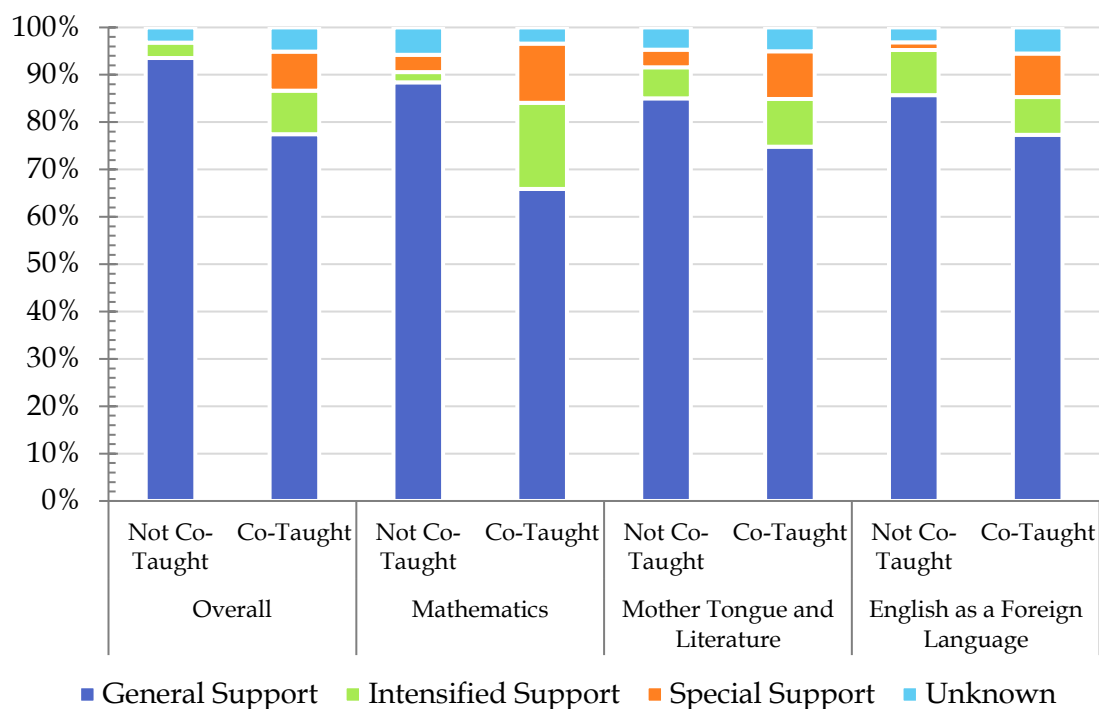


FIGURE 4. Proportion of Students Receiving Support for Learning and Schooling in Co-Taught and Non-Co-Taught Classes

In addition, 6 students freely reported taking Finnish as a second language instead of MTL, most likely indicating an immigrant background. However, information on these students' mother tongue was not collected.

6.3 Data Collection

Preliminary observation was conducted in the co-taught classrooms of both schools using Murawski and Lochner's (2011) *Co-Teaching Checklist* (Appendix 1) in order to determine that the co-teachers' practice met the theoretical definition of co-teaching.

A students' questionnaire consisting of the instruments listed in Section 6.4 was distributed to all participants during a randomly chosen class period and completed anonymously (see Appendix 2). The survey was conducted in February 2016. Additionally, the following information was reported by students: grade, gender, level of received support for learning and schooling, and latest grades in mathematics, MTL and EFL. Both students and teachers provided information on the frequency of co-teaching in each classroom.

In order to carry out the study, permission was sought from the municipal education authorities as well as from the participating schools. Parental consent was not required, as no sensitive information was collected. However, a letter of information was distributed to parents (see Appendix 3). The questionnaires were completed anonymously and immediately collected by the researcher. The resulting data was then compiled anonymously.

6.4 Instruments

Students identified their perceptions based on several scales combining Likert-type items, which measured school motivation, academic self-concept, perception of the learning environment, perception of teacher availability and perception of co-teachers' collaborative relationship.

6.4.1 School Motivation

In order to account for motivational factors when analysing students' perceptions of the learning environment, students were asked about their general attitude towards school and school-related tasks (reading, writing and mathemat-

ics) using a modified Finnish version of the *Task Value Scale for Children (TVS-C)* by Nurmi and Aunola (1999), which was developed based on the theory of task value by Eccles (1983). Students identified the interest value they attributed to school-related tasks on a 4-point ordinal scale, answering questions such as “How much do you like doing math-related tasks at school?”.

6.4.2 Academic Self-Concept

Students’ academic self-concept was used as an indicator of their perceptions of academic achievement. Indeed, academic self-concept has been shown to be correlated to academic performance (Huang, 2011; Marsh & Martin, 2011), which in turn is a good indicator of the efficacy of teachers’ educational practice (Wright, Horn, & Sanders, 1997). Shavelson, Hubner and Stanton (1976) proposed that self-concept could be broadly defined as “a person's perception of himself” (p. 411). They described self-concept as being a dynamic outside process which is influenced by and influences a person’s actions, rather than an inner characteristic of a person. Self-concept has further been divided into a multi-faceted model consisting of, among others, academic self-concept (Shavelson et al., 1976; Byrne, 1984; Byrne & Shavelson, 1986). Academic self-concept can therefore be defined as a person’s perception of his or her academic skills and abilities. Furthermore, Marsh and Shavelson proposed a complex model of academic self-concept that comprises a hierarchy of subject-specific self-concepts (Marsh, 1990). These different facets have shown higher correlation with academic achievement in the related subject areas than the traditional single dimensional model of academic self-concept (Marsh, Byrne, & Shavelson, 1988; Marsh, Smith, Barnes, & Butler, 1983).

Students’ general, academic and subject-specific self-concepts were measured using a Finnish translation of Marsh’s (1992) *Self Description Questionnaire (SDQ I)*. Specifically, the Likert scales measuring the *reading*, *mathematics*, *general-self* and *general-school* factors were included in the student questionnaire. Each factor consists of 10 items, such as “I learn things quickly in mathematics”, to which students rated their agreement on a 5-point ordinal scale.

6.4.3 Learning Environment and Teacher Availability

Students' perceptions of the learning environment were collected using the *Involvement*, *Cooperation* and *Equity* subscales of Fraser, McRobbie and Fisher's (1996) *What Is Happening In this Class (WIHIC)* questionnaire, and the *Teacher Support* subscale was used to study how students perceived teacher availability. Each Likert subscale consists of 8 items rated on a 5-point ordinal scale, such as "I am treated the same as other students in this class". Students filled out the WIHIC questionnaire a total of three times, i.e. once for each class (mathematics, MTL and EFL). The scale was translated to Finnish, back-translated and proofread with the help of the study's supervising professor, faculty researchers and students.

6.4.4 Co-Teacher Collaboration and Perceptions of Co-Teaching

As a measure of students' perceptions of their co-teachers' collaboration as well as of their general perceptions of co-teaching, the students' survey developed by King-Sears et al. (2014) was selected. Students answered up to three times, depending on whether they were co-taught in each subject. The survey consists of 15 Likert-type items rated on a 4-point ordinal scale, e.g. "I think both teachers are equal teachers in the classroom". It was translated to Finnish following the same procedure as with the WIHIC questionnaire. Confirmatory factor analysis was used to verify the grouping of items into Likert subscales.

6.5 Reliability

The instruments used in this study were carefully selected based on their validity and reliability as reported in literature. In addition, the internal consistency of each Likert instrument based on the collected data was determined using Cronbach's alpha (Muijs, 2004, p. 73; Sullivan & Artino, 2013, p. 542), and a confirmatory factor analysis was performed on the co-teaching survey.

The TVS-C was developed in Finland and has been validated with samples of approximately 200 Finnish students up to 7th grade (Nurmi & Aunola, 2005; Viljaranta, Tolvanen, Aunola, & Nurmi, 2014). As shown in Table 1, the instrument performed with good reliability.

TABLE 1. Internal Consistency of the TVS-C Instrument

Factor	Theoretical α^a	Measured α	N
Reading	.72 - .83	.76	222
Writing	.74 - .91	.79	222
Mathematics	.70 - .83	.79	219

^a Nurmi & Aunola, 2005.

The SDQ I was developed based on Marsh and Shavelson's theory using a sample of over 3000 primary school students and has since then been widely translated and validated (Leach, Henson, Odom, & Cagle, 2006; Marsh, 1992; Marsh & MacDonald Holmes, 1990; Wästlund, Norlander, & Archer, 2001). Excellent reliability was obtained (see Table 2).

TABLE 2. Internal Consistency of the SDQ I Instrument

Factor	Theoretical α^a	Measured α	N
Reading	.81 - .94	.91	215
Mathematics	.81 - .94	.95	224
General-Self	.81	.89	217
General-School	.81 - .94	.89	219

^a Marsh, 1992.

The WIHIC questionnaire is a widely used and well validated scale at a cross-national level, having been translated to multiple languages and used with samples as big as 3980 students (Dorman, 2003; Fraser, 1998). As shown in Table 3, it displayed excellent reliability during the study.

TABLE 3. Internal Consistency of the WIHIC Instrument

Factor	Theoretical ^a	Mathematics	MTL		EFL		
	α	α	N	α	N	α	N
Teacher Support	.88	.85	223	.89	221	.90	206
Involvement	.84	.86	221	.89	222	.90	216
Cooperation	.89	.87	220	.86	220	.86	212
Equity	.93	.94	224	.97	218	.96	200

^a Fraser, 1998.

Note: MTL = Mother Tongue and Literature, EFL = English as a Foreign Language.

King-Sears et al. (2014) developed the co-teaching survey for students with a small sample of secondary school SEN students in order to obtain their perceptions of co-teaching and in particular, of the level of parity between the co-teachers (items 1, 3, 6 and 14), the nature of the co-teachers' relationship (items 2 and 4), the nature of the learning environment (items 5, 7, 9, 11 and 13) and whether confusion ensued from having two teachers (items 8, 10, 12 and 15). Confirmatory factor analysis was performed on the instrument in order to verify construct validity for a statistical analysis with a larger sample (Muijs, 2004, p. 70). A final solution of three factors was preferred over a four-factor solution with fewer high residuals on the basis of conceptual clarity. The instrument was divided into students' perceptions of *co-teacher equity and collaboration, learning and positive environment*, and *confusion in the co-taught classroom*. The solution was consistent across subjects (see Table 4).

The instrument's reliability was then determined using Cronbach's alpha and was deemed acceptable (see Table 5). Items 14 and 15 were omitted during scoring of the questionnaire due to poor consistency and reliability.

In summary, the reliability of all instruments ranged from good ($\alpha > .7$) to excellent ($\alpha > .9$) and confirmatory factor analysis provided a consistent solution for the co-teaching survey. Content validity was ensured by carefully selecting the instruments based on their underlying theory. In addition, face validity was

verified with the participation of researchers, teachers and students in reviewing the questionnaire.

TABLE 4. Analysis of the Translated Co-Teaching Survey via Principal Axis Factoring

Item	Factor Loadings (EFL [$n = 140$]; MTL [$n = 111$]; Math [$n = 85$])		
	Co-Teacher Equity and Collaboration	Learning and Positive Environment	Confusion in the Co-Taught Classroom
1	.69; .74; .75		
2	.79; .73; .61		
3	.79; .90; .78		
4	.50; .47; .40		
6	.47; .41; .39		
5		-.73; -.67; .44	
7		-.85; -.78; .61	
9		-.65; -.66; .82	
11		-.36; -.34; .48	
13		-.68; -.54; .73	
8			.71; .76; .75
10			.61; .72; .61
12			.74; .75; .87
15			.33; .42; .28
% Variance	25.25; 27.77; 8.30	11.61; 7.91; 29.96	8.36; 12.43; 10.16
Eigenvalue	3.79; 4.17; 1.25	1.74; 1.19; 4.49	1.25; 1.86; 1.52

Item 14 was omitted due to low extraction values ($< .1$).

Note: MTL = Mother Tongue and Literature, EFL = English as a Foreign Language.

TABLE 5. Internal Consistency of the Translated Co-Teaching Survey

Factor	Mathematics		MTL		EFL	
	α	N	α	N	α	N
Teacher Equity and Collaboration	.74	87	.79	116	.81	148
Learning and Positive Environment	.85	87	.81	115	.80	153
Confusion ^a	.77	86	.78	113	.76	158

^a Item 15 was omitted due to poor reliability.

Note: MTL = Mother Tongue and Literature, EFL = English as a Foreign Language.

6.6 Data Analysis

Data was subjected to descriptive statistical analysis, as the aims of the study are to paint a general picture of students' perceptions of co-teaching. Questionnaire responses were compiled and processed using statistical analysis software. Despite the ordinal nature of Likert-type items, Likert scale mean scores were analysed as interval measurements assuming normality due to the robustness of parametric tests (see Boone & Boone, 2012; Sullivan & Artino, 2013). The mean was used as an indicator of central tendency and standard deviation indicated variability. Parametric statistical tests (t-test, analysis of variance) were used to compare groups such as co-taught and non-co-taught students and to analyse gender-based and age-based differences.

7 RESULTS

7.1 School Motivation

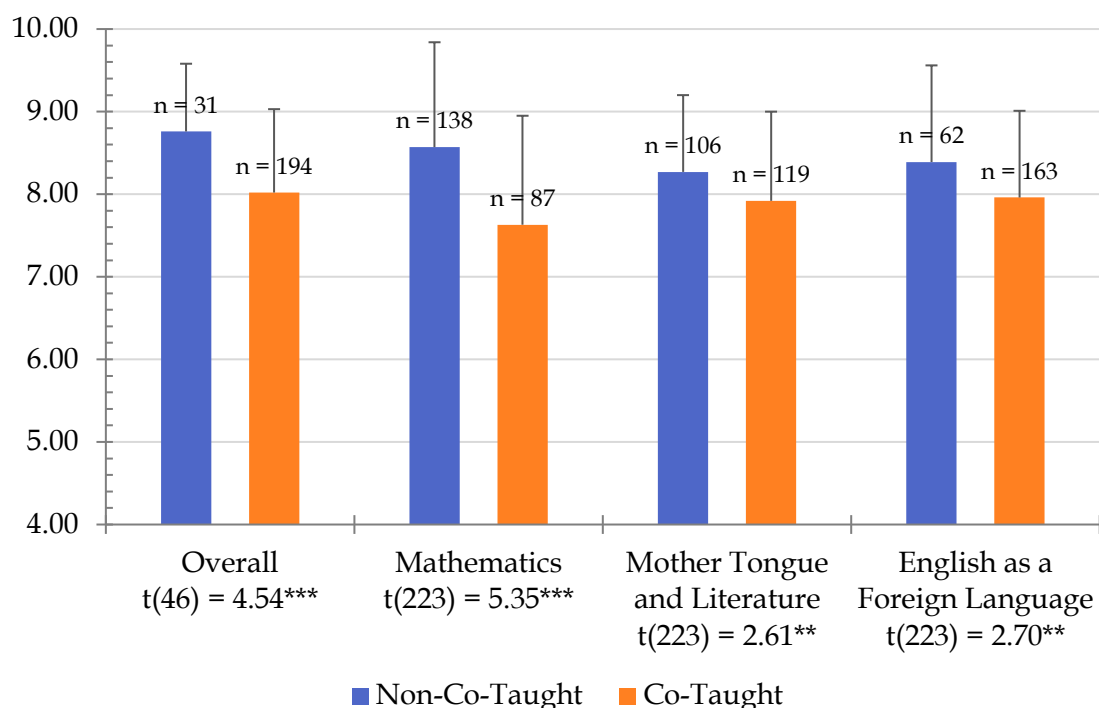
Co-taught and non-co-taught students' general attitude towards school and school-related tasks were compared using independent samples t-test and one-way univariate analysis of variance. No statistically significant difference, $t(223) = 0.28, p = .78$, was found in co-taught ($M = 3.06, SD = 0.65, n = 194$) and non-co-taught ($M = 3.10, SD = 0.65, n = 31$) students' motivation for school. Similarly, students co-taught in mathematics ($M = 2.55, SD = 0.84, n = 87$) did not significantly attribute more task value to mathematics than non-co-taught students ($M = 2.74, SD = 0.74, n = 138$), $t(223) = 1.73, p = .09$. Differences in motivation for reading between non-co-taught students ($M = 2.64, SD = 0.64, n = 37$) and those co-taught in one ($M = 2.60, SD = 0.77, n = 96$) and two ($M = 2.47, SD = 0.65, n = 93$) language classes were also non-significant, $F(2, 223) = 1.19, p = .31$, as were differences in motivation for writing between non-co-taught ($M = 2.47, SD = 0.70, n = 37$) and co-taught students in one ($M = 2.66, SD = 0.78, n = 96$) and two language classes ($M = 2.52, SD = 0.67, n = 93$), $F(2, 223) = 1.36, p = .26$. It is therefore reasonable to conclude that no relation exists between students' school motivation and the co-taught setting. Thus, motivation should not be a significant factor in potential differences of student perceptions of the learning environment in co-taught and non-co-taught settings.

7.2 Academic Achievement and Self-Concept

7.2.1 Grade Average

Students' reported grade averages in mathematics, MTL and EFL as well as overall grade average were compared between co-taught and non-co-taught groups. As shown in Figure 5, co-taught students reported a lower grade aver-

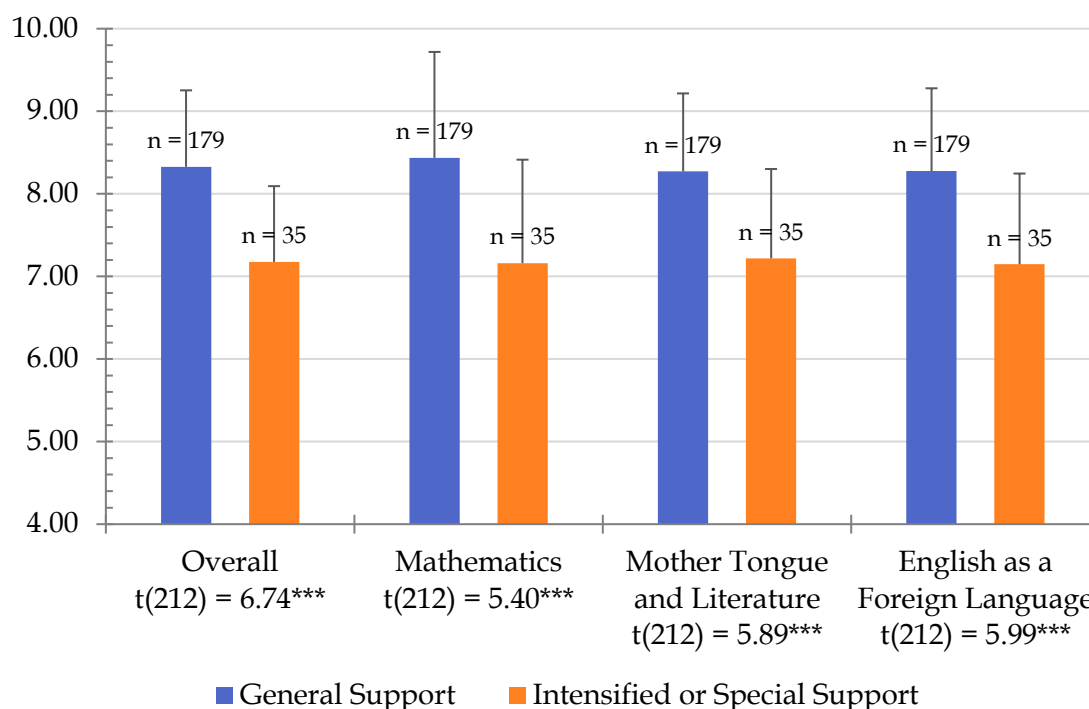
age than students who were not co-taught. This difference is statistically significant in all subjects.



** $.001 \leq p < .01$; *** $p < .001$. Grades are attributed as whole numbers from 4 (fail) to 10 (excellent). Error bars represent standard deviation.

FIGURE 5. Comparison of Co-Taught and Non-Co-Taught Students' Reported Grade Averages

An independent samples t-test was also conducted in order to compare grade averages of students receiving general support for learning and schooling and those receiving intensified or special support. As can be seen in Figure 6, grade averages of students benefiting from intensified or special support are significantly lower in all subjects. The largest difference between general support students and intensified and special support students is observed in mathematics.



*** $p < .001$. Grades are attributed as whole numbers from 4 (fail) to 10 (excellent). Error bars represent standard deviation.

FIGURE 6. Comparison of Students' Reported Grade Averages Based on Level of Support for Learning and Schooling

Students' grade averages were also compared via one-way univariate analysis of variance to facilitate the interpretation of future analyses of covariance. The analysis confirmed the t-test results from Figure 5: differences in non-co-taught and co-taught students' grade averages were statistically significant in all subjects, as shown in Table 6.

An analysis of covariance was then conducted and showed that co-taught students' overall grade average ($M = 8.06$, $SE = 0.07$, $n = 184$) was significantly lower than that of non-co-taught students ($M = 8.63$, $SE = 0.17$, $n = 30$), $F(1, 211) = 9.88$, $p = .002$, after adjusting for the statistically significant effect of support for learning and schooling, $F(1, 211) = 40.53$, $p < .001$. The effect size of this difference was 0.05. Results were similar with regards to co-teaching in mathematics and language classes (see Table 7).

TABLE 6. Analysis of Variance of Students' Grade Averages in Non-Co-Taught and Co-Taught Settings

Overall Grade Average						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught	8.76	0.18	1	15.23***	0.07	31
Co-Taught	8.02	0.07				194
Error			223			225
Grade Average in Mathematics						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in Math	8.57	0.11	1	28.57***	0.11	138
Co-Taught in Math	7.63	0.14				87
Error			223			225
Grade Average in Mother Tongue and Literature						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in MTL	8.27	0.10	1	6.83*	0.03	106
Co-Taught in MTL	7.92	0.09				119
Error			223			225
Grade Average in English as a Foreign Language						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in EFL	8.39	0.14	1	7.29**	0.03	62
Co-Taught in EFL	7.96	0.09				163
Error			223			225

* $.01 \leq p < .05$; ** $.001 \leq p < .01$; *** $p < .001$.

^a Grades are attributed as whole numbers from 4 (fail) to 10 (excellent).

TABLE 7. Analysis of Covariance of Students' Grade Averages in Non-Co-Taught and Co-Taught Settings Accounting for Students' Received Level of Support

Grade Average in Mathematics						
	Est. Mean ^a	Std. Error	df	F	η^2	n
Support for Learning and Schooling			1	15.76***	0.07	
Non-Co-Taught in Math	8.49	0.11				130
Co-Taught in Math	7.82	0.14	1	13.19***	0.06	84
Error			211			214
Grade Average in Mother Tongue and Literature						
	Est. Mean ^a	Std. Error	df	F	η^2	n
Support for Learning and Schooling			1	31.09***	0.13	
Non-Co-Taught in MTL	8.25	0.10				101
Co-Taught in MTL	7.97	0.09	1	4.64*	0.02	113
Error			211			214
Grade Average in English as a Foreign Language						
	Est. Mean ^a	Std. Error	df	F	η^2	n
Support for Learning and Schooling			1	34.18***	0.14	
Non-Co-Taught in EFL	8.37	0.13				60
Co-Taught in EFL	7.98	0.08	1	6.42*	0.03	154
Error			211			214

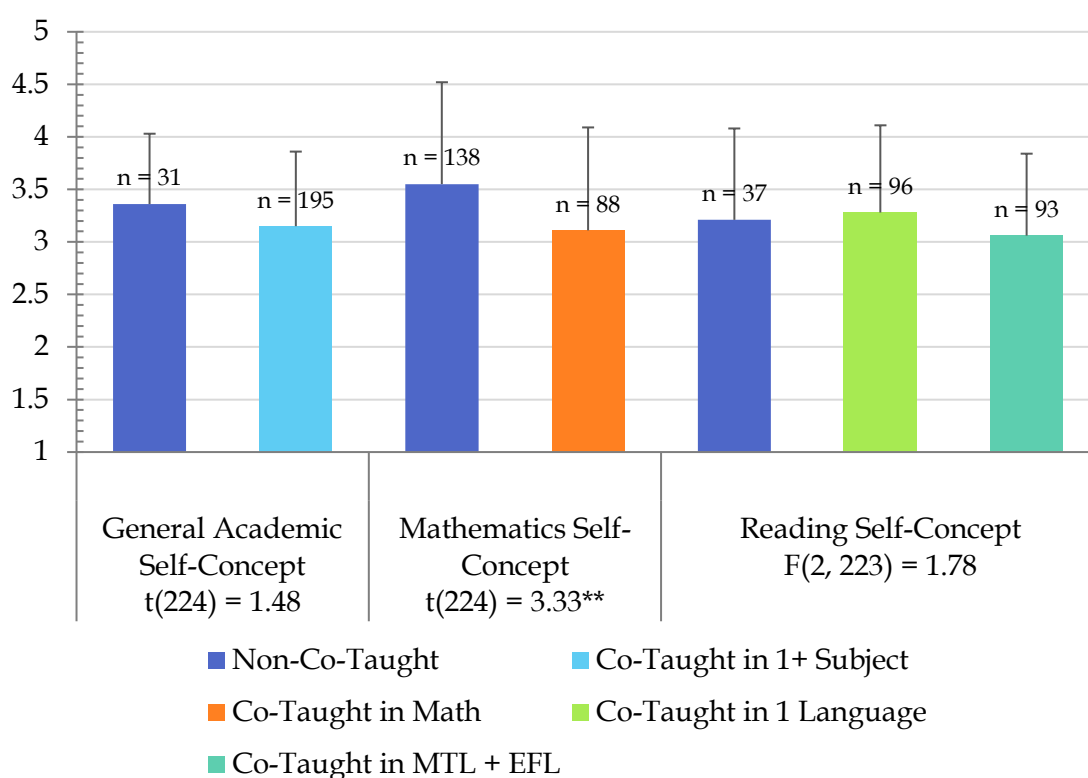
* $.01 \leq p < .05$; ** $.001 \leq p < .01$; *** $p < .001$.

^a Grades are attributed as whole numbers from 4 (fail) to 10 (excellent).

As described previously in Section 6.2 (Figure 4), the proportion of SEN students was found to be larger in co-taught classes. Based on the analysis of students' grade averages, it can be concluded that in addition to an increased likelihood of receiving intensified or special support, co-taught students were more likely to be low achievers, particularly in co-taught mathematics.

7.2.2 Academic Self-Concept

Next, co-taught and non-co-taught students' general and subject-specific academic self-concept was compared via independent samples t-test and univariate analysis of variance, as can be seen in Figure 7. Mathematics self-concept was significantly lower in students who were co-taught in mathematics compared to those who were not. There was no statistically significant difference between co-taught and non-co-taught students in general academic and reading self-concept.



** $.001 \leq p < .01$. Students rated academic self-concept on a 5-point Likert-type scale, where 1 represents low (negative) self-concept and 5 represents high (positive) self-concept. Error bars represent standard deviation.

FIGURE 7. Mean Values of Students' Academic Self-Concept in Different Co-Taught Settings

Table 8 displays univariate analysis of variance results that confirm the previous t-test results regarding general academic and mathematics self-concept. As above, the difference between non-co-taught and co-taught students' mathematics self-concept is statistically significant.

TABLE 8. Analysis of Variance of Academic Self-Concept in Non-Co-Taught and Co-Taught Settings

General Academic Self-Concept						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught	3.36	0.13				31
Co-Taught	3.15	0.05	1	2.20	0.01	195
Error			224			226
Mathematics Self-Concept						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in Math	3.55	0.08				138
Co-Taught in Math	3.11	0.10	1	11.06**	0.05	88
Error			224			226

** $.001 \leq p < .01$.

^a Students rated academic self-concept on a 5-point Likert-type scale, where 1 represents low (negative) self-concept and 5 represents high (positive) self-concept.

The effect of co-teaching on students' academic self-concept was then examined via analysis of covariance. No statistically significant difference was found between co-taught ($M = 3.20$, $SE = 0.04$, $n = 184$) and non-co-taught ($M = 3.08$, $SE = 0.11$, $n = 30$) students' general academic self-concept, $F(1, 210) = 0.96$, $p = .33$, when controlling for the effect of grade average and received support for learning and schooling. Grade average was a statistically significant covariate, $F(1, 210) = 104.47$, $p < .001$, $\eta p^2 = 0.32$, but the level of received support was not, $F(1, 210) = 0.03$, $p = .87$. Similar results were obtained between co-taught and non-co-taught groups in regards to subject-specific academic self-concept (see Table 9).

Based on the analysis, co-teaching was not found to have any significant effect on students' academic self-concept. As expected, the correlation between academic achievement (grade averages) and academic self-concept was confirmed. Students in co-taught classrooms reported weaker self-concept due to their lower level of academic achievement. The difference was found to be most striking in co-taught mathematics.

TABLE 9. Analysis of Covariance of Subject-Specific Self-Concept in Non-Co-Taught and Co-Taught Settings Accounting for Students' Grade Average and Received Level of Support

Mathematics Self-Concept						
	Est. Mean ^a	Std. Error	df	F	η^2	n
Math Grade Average			1	171.22***	0.45	
Support for Learning and Schooling			1	2.02	0.01	
Non-Co-Taught in Math	3.39	0.07	1	0.05	0.00	130
Co-Taught in Math	3.36	0.08	1			84
Error			210			214
Reading Self-Concept						
	Est. Mean ^a	Std. Error	df	F	η^2	n
MTL Grade Average			1	85.55***	0.29	
Support for Learning and Schooling			1	0.99	0.01	
Non-Co-Taught in MTL	3.17	0.07	1	0.09	0.00	101
Co-Taught in MTL	3.20	0.06	1			113
Error			210			214
EFL Grade Average			1	51.02***	0.20	
Support for Learning and Schooling			1	2.13	0.01	
Non-Co-Taught in EFL	3.15	0.09	1	0.25	0.00	60
Co-Taught in EFL	3.20	0.06	1			154
Error			210			214

*** $p < .001$.

^a Students rated academic self-concept on a 5-point Likert-type scale, where 1 represents low (negative) self-concept and 5 represents high (positive) self-concept.

7.3 Learning Environment

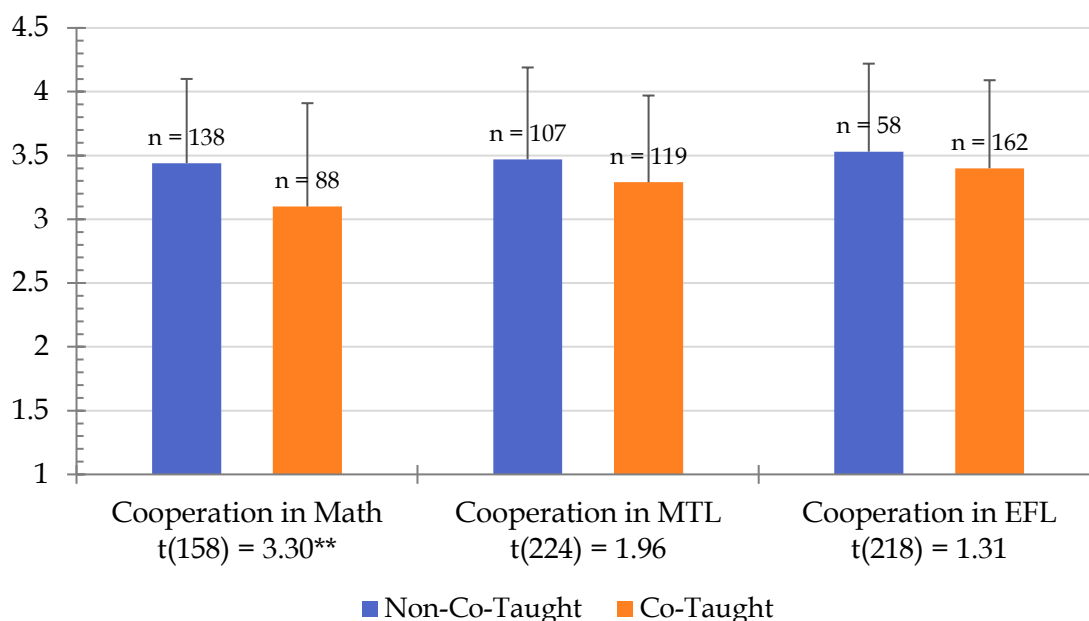
Students reported their perceptions of the learning environment by describing the levels of involvement, cooperation and equity in their classes.

7.3.1 Student Involvement

No statistically significant difference was found between non-co-taught ($M = 2.88$, $SD = 0.71$, $n = 138$) and co-taught ($M = 2.76$, $SD = 0.86$, $n = 88$) students' perceptions of their involvement in mathematics class, $t(160) = 1.14$, $p = .26$. Similarly, differences in students' perceived involvement between non-co-taught ($M = 2.90$, $SD = 0.73$, $n = 107$) and co-taught ($M = 2.86$, $SD = 0.78$, $n = 119$) MTL, $t(224) = 0.42$, $p = .68$, and non-co-taught ($M = 3.07$, $SD = 0.79$, $n = 58$) and co-taught ($M = 2.96$, $SD = 0.81$, $n = 162$) EFL, $t(218) = 0.92$, $p = .36$, were not statistically significant.

7.3.2 Student Cooperation

Students co-taught in mathematics reported perceiving significantly less cooperation between students in their classroom than those who were not co-taught, as shown in Figure 8. No significant difference in perceived student cooperation was observed between non-co-taught and co-taught MTL and EFL classes.



* $.01 \leq p < .05$; ** $.001 \leq p < .01$. Students rated the learning environment on a 5-point Likert-type scale, where 1 represents a negative environment and 5 represents a positive environment. Error bars represent standard deviation.

FIGURE 8. Mean Values of Students' Perception of Cooperation Levels in the Classroom

A univariate analysis of variance was run to confirm the above independent samples t-test results, as can be seen in Table 10.

TABLE 10. Analysis of Variance of Student Cooperation in Non-Co-Taught and Co-Taught Settings

Student Cooperation in Mathematics						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in Math	3.44	0.06	1	11.92**	0.05	138
Co-Taught in Math	3.10	0.08				88
Error			224			226
Student Cooperation in Mother Tongue and Literature						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in MTL	3.47	0.07	1	3.84	0.02	107
Co-Taught in MTL	3.29	0.06				119
Error			224			226
Student Cooperation in English as a Foreign Language						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in EFL	3.53	0.09	1	1.70	0.01	58
Co-Taught in EFL	3.40	0.05				162
Error			218			220

* $.01 \leq p < .05$; ** $.001 \leq p < .01$.

^a Students rated the learning environment on a 5-point Likert-type scale, where 1 represents a negative environment and 5 represents a positive environment.

Differences in perceived cooperation between non-co-taught and co-taught students in mathematics were then examined via analysis of covariance, accounting for the effects of received support for learning and schooling, gender, motivation for mathematics and grade average, as shown in Table 11.

TABLE 11. Analysis of Covariance of Student Cooperation in Non-Co-Taught and Co-Taught Mathematics Accounting for Students' Grade Average, Motivation for Mathematics, Gender and Received Level of Support

	Est. Mean ^a	Std. Error	df	F	η^2	n
Math Grade Average			1	0.01	0.00	
Motivation for Math			1	8.75**	0.04	
Gender			1	6.46*	0.03	
Support for Learning and Schooling			1	0.48	0.00	
Non-Co-Taught in Math	3.41	0.06	1	4.70*	0.02	130
Co-Taught in Math	3.18	0.08				81
Error			205			211

* $.01 \leq p < .05$; ** $.001 \leq p < .01$.

^a Students rated the learning environment on a 5-point Likert-type scale, where 1 represents a negative environment and 5 represents a positive environment.

In summary, students perceived less cooperation amongst themselves in co-taught mathematics. The difference in perceptions is statistically significant, but the effect size determined via partial eta squared is negligible. Perception of cooperation is positively tied to students' motivation for mathematics. In addition, female students perceived more cooperation in mathematics than their male counterparts.

7.3.3 Student Equity

Students reported perceiving less equity in co-taught mathematics classrooms ($M = 4.07$, $SD = 0.89$, $n = 88$) than in those that were not co-taught ($M = 4.33$, $SD = 0.72$, $n = 138$), $t(158) = 2.23$, $p = .027$. Similarly, students reported perceiving less equity in co-taught MTL ($M = 4.02$, $SD = 0.96$, $n = 119$) classrooms than in non-co-taught MTL ($M = 4.27$, $SD = 0.78$, $n = 107$), $t(222) = 2.09$, $p = .038$. However, no statistically significant difference in equity was found between non-co-taught ($M = 4.24$, $SD = 0.77$, $n = 59$) and co-taught ($M = 4.09$, $SD = 0.89$, $n = 162$) EFL classes, $t(219) = 1.19$, $p = .24$. As shown in Table 12, the independent samples t-test results were verified via univariate analysis of variance.

TABLE 12. Analysis of Variance of Student Equity in Non-Co-Taught and Co-Taught Settings

Student Equity in Mathematics						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in Math	4.33	0.07	1	5.44*	0.02	138
Co-Taught in Math	4.07	0.08				88
Error			224			226
Student Equity in Mother Tongue and Literature						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in MTL	4.27	0.09	1	4.27*	0.02	107
Co-Taught in MTL	4.02	0.08				119
Error			224			226
Student Equity in English as a Foreign Language						
	Est. Mean ^a	Std. Error	df	F	ηp^2	n
Non-Co-Taught in EFL	4.24	0.11	1	1.41	0.01	59
Co-Taught in EFL	4.09	0.07				162
Error			219			221

* $.01 \leq p < .05$.

^a Students rated the learning environment on a 5-point Likert-type scale, where 1 represents a negative environment and 5 represents a positive environment.

An analysis of covariance was then performed on the perceived differences in equity in mathematics and MTL while accounting for the effects of received support for learning and schooling, gender, school motivation and grade average. However, as shown in Table 13, differences were found not to be statistically significant.

Perceived differences in equity amongst students in co-taught and non-co-taught mathematics and MTL seem to be tied to students' motivation for mathematics and grade average in MTL, but not to the co-taught setting. It can therefore be concluded that equity amongst students was not significantly different between co-taught and non-co-taught settings.

TABLE 13. Analysis of Covariance of Student Equity in Non-Co-Taught and Co-Taught Settings Accounting for Students' Grade Average, Task-Related Motivation, Gender and Received Level of Support

Student Equity in Mathematics						
	Est. Mean ^a	Std. Error	df	F	η^2	n
Math Grade Average			1	3.10	0.02	
Motivation for Math			1	4.86*	0.02	
Gender			1	2.08	0.01	
Support for Learning and Schooling			1	1.22	0.01	
Non-Co-Taught in Math	4.26	0.07	1	0.63	0.00	130
Co-Taught in Math	4.17	0.09				81
Error			205			211
Student Equity in Mother Tongue and Literature						
	Est. Mean ^a	Std. Error	df	F	η^2	n
MTL Grade Average			1	11.24**	0.05	
Motivation for Reading			1	0.33	0.00	
Motivation for Writing			1	1.68	0.01	
Gender			1	0.64	0.00	
Support for Learning and Schooling			1	2.17	0.01	
Non-Co-Taught in MTL	4.18	0.08	1	1.03	0.01	101
Co-Taught in MTL	4.07	0.08				111
Error			205			212

** $.001 \leq p < .01$.

^a Students rated the learning environment on a 5-point Likert-type scale, where 1 represents a negative environment and 5 represents a positive environment.

7.4 Teacher Availability

Students' perceptions of teacher availability in co-taught and non-co-taught settings were compared via independent samples t-test. No statistically significant difference was found between non-co-taught ($M = 3.65$, $SD = 0.64$, $n = 138$) and co-taught ($M = 3.66$, $SD = 0.72$, $n = 88$) students in mathematics, $t(224) = -0.03$, p

= .98. Similarly, non-co-taught ($M = 3.62$, $SD = 0.69$, $n = 107$) and co-taught ($M = 3.64$, $SD = 0.69$, $n = 118$) students in MTL did not perceive any difference in the availability of their teachers, $t(223) = -0.22$, $p = .83$. Results were also comparable in EFL, where teacher availability in non-co-taught ($M = 3.65$, $SD = 0.66$, $n = 59$) and co-taught ($M = 3.64$, $SD = 0.75$, $n = 162$) classes was not significantly different, $t(219) = 0.10$, $p = .92$.

Students' perceptions of teacher availability were then compared across levels of support for learning and schooling via independent samples t-test. As above, no statistically significant difference was found. Students receiving general support ($M = 3.66$, $SD = 0.65$, $n = 180$) reported the same teacher availability in mathematics as students receiving intensified or special support ($M = 3.70$, $SD = 0.80$, $n = 35$), $t(213) = -0.25$, $p = .80$. Teacher availability in MTL was also perceived to be similar by general support students ($M = 3.65$, $SD = 0.67$, $n = 179$) and intensified or special support students ($M = 3.52$, $SD = 0.76$, $n = 35$), $t(212) = 0.97$, $p = .34$. Finally, students reported similar teacher availability in EFL, $t(209) = -0.90$, $p = .37$, regardless of whether they received general ($M = 3.63$, $SD = 0.70$, $n = 176$) or intensified or special ($M = 3.75$, $SD = 0.83$, $n = 35$) support.

In conclusion, neither co-teaching nor students' received level of support for learning and schooling seem to affect students' perceptions of the availability of their teachers.

7.5 Co-Teacher Collaboration and Equity

Co-taught students were surveyed on their perception of their co-teachers' collaborative relationship. They reported on average that their co-teachers collaborate well and their relationship is mostly equitable, as shown in Table 14.

Students were grouped by gender and by level of received support for learning and schooling and independent samples t-test was used to analyse differences in their perceptions of their co-teachers' relationship. No statistically significant difference was found between any of the groups.

TABLE 14. Students' Perception of Co-Teacher Equity and Collaboration

Group	Mean ^a	SD	n
Co-Taught in Math	3.25	0.55	89
Co-Taught in MTL	3.07	0.62	137
Co-Taught in EFL	3.35	0.53	160
All Co-Taught Students	3.30	0.51	194

^a Students rated their co-teachers' relationship on a 4-point Likert-type scale, where 1 represents a non-collaborative and unequitable relationship and 4 represents a collaborative and equitable relationship.

Differences in 7th, 8th and 9th grade students' perception of their co-teachers' relationship were then analysed via one-way analysis of variance followed by Tukey's honest significant difference test. Students co-taught in 7th grade MTL perceived that their co-teachers' relationship was significantly more equitable ($M = 3.32$, $SD = 0.47$, $n = 27$) than those co-taught in 9th grade MTL ($M = 2.92$, $SD = 0.59$, $n = 46$), $F(2, 136) = 3.57$, $p = .03$. 7th grade students who were co-taught in EFL also perceived a statistically significant difference in their co-teachers' relationship ($M = 3.57$, $SD = 0.40$, $n = 63$) as compared to 8th grade ($M = 3.19$, $SD = 0.57$, $n = 58$) and 9th grade ($M = 3.23$, $SD = 0.55$, $n = 39$) students in co-taught EFL, $F(2, 159) = 10.19$, $p < .001$. Overall, co-taught 7th graders' perception of co-teacher equity ($M = 3.54$, $SD = 0.38$, $n = 64$) was significantly higher than that of co-taught 8th ($M = 3.22$, $SD = 0.55$, $n = 82$) and 9th ($M = 3.10$, $SD = 0.48$, $n = 48$) graders, $F(2, 193) = 12.95$, $p < .001$.

7.6 General Perceptions of Co-Teaching

7.6.1 Learning and Positive Environment

Students were surveyed on whether they learnt better with two teachers and enjoyed studying in co-taught classrooms. As can be seen from Table 15, co-taught students reported on average slightly positive learning experiences in their co-taught classrooms.

TABLE 15. Students' Perception of Learning in the Co-Taught Classroom

Group	Mean ^a	SD	n
Co-Taught in Math	2.86	0.72	89
Co-Taught in MTL	2.71	0.66	117
Co-Taught in EFL	2.76	0.64	160
All Co-Taught Students	2.77	0.62	194

^a Students rated their perceptions of co-teaching on a 4-point Likert-type scale, where 1 represents a negative perception and 4 represents a positive perception of co-teaching.

Differences in female and male students' perceptions of co-teaching were analysed through independent samples t-tests. Female students in co-taught mathematics ($M = 3.07$, $SD = 0.71$, $n = 35$) reported a more positive experience of co-teaching than their male counterparts ($M = 2.70$, $SD = 0.69$, $n = 52$), $t(85) = 2.40$, $p = .02$. Differences between female and male students' perceptions in other co-taught subjects were not statistically significant.

Students reported significantly different experiences of co-teaching in certain subjects depending on their level of received support for learning and schooling. General support students in co-taught mathematics ($M = 2.75$, $SD = 0.68$, $n = 59$) were more critical of their co-teaching experience than those receiving intensified or special support in co-taught mathematics ($M = 3.09$, $SD = 0.76$, $n = 27$), $t(84) = -2.05$, $p = .04$. The difference in students' perceptions was also statistically significant across all co-taught subjects: on average, general support students ($M = 2.72$, $SD = 0.61$, $n = 150$) rated their co-teaching experience lower than intensified and special support students ($M = 2.96$, $SD = 0.68$, $n = 34$), $t(182) = -2.04$, $p = .04$.

Older students were also found to have a more critical perception of their co-teaching experience than younger students. Students co-taught in 7th grade mathematics ($M = 3.27$, $SD = 0.47$, $n = 14$) reported a more positive learning experience than their 9th grade peers ($M = 2.67$, $SD = 0.64$, $n = 34$), $F(2, 88) = 3.70$, $p = .03$. Similarly, students co-taught in 9th grade MTL ($M = 2.47$, $SD = 0.62$, $n =$

39) were more critical than those co-taught in 7th ($M = 2.90, SD = 0.65, n = 20$) and 8th grade MTL ($M = 2.80, SD = 0.65, n = 58$), $F(2, 116) = 4.15, p = .02$.

7.6.2 Confusion in the Co-Taught Classroom

Co-taught students were asked how confusing it was to learn with co-teachers. They reported on average low confusion in co-taught classrooms, as shown in Table 16.

TABLE 16. Students' Perception of Confusion in the Co-Taught Classroom

Group	Mean ^a	SD	n
Co-Taught in Math	2.80	0.80	87
Co-Taught in MTL	2.90	0.75	117
Co-Taught in EFL	2.85	0.72	160
All Co-Taught Students	2.85	0.67	193

^a Students rated their perceptions of co-teaching on a 4-point Likert-type scale, where 1 represents high confusion and 4 represents low confusion during co-teaching.

As previously, co-taught students were grouped by gender and statistically significant differences in their perception of confusion in the co-taught classroom were found. In co-taught mathematics, female students ($M = 3.05, SD = 0.77, n = 34$) perceived less confusion than male students ($M = 2.59, SD = 0.75, n = 51$), $t(83) = 2.70, p = .009$. Similarly, female students ($M = 3.06, SD = 0.68, n = 65$) felt less confused than male students ($M = 2.72, SD = 0.72, n = 95$) during co-teaching in EFL, $t(158) = 3.00, p = .003$. The differences in perception of confusion were also consistent across all co-taught subjects, with female students ($M = 3.03, SD = 0.66, n = 84$) perceiving on average less confusion than their male peers ($M = 2.70, SD = 0.64, n = 107$), $t(189) = 3.46, p = .001$.

However, when comparing students receiving intensified or special support to general support students, no statistically significant difference in perception of confusion in the co-taught classroom was found. In addition, students' perceptions were not found to differ across the 7th, 8th and 9th grade.

In summary, co-taught students reported on average positive experiences of co-teaching. Students' perceptions were significantly different across certain groups. In particular, students receiving intensified or special support reported a more positive learning experience in co-taught classrooms than general support students.

8 DISCUSSION

8.1 Analysis

8.1.1 Academic Self-Concept

The analysis of the results obtained regarding students' academic outcomes and self-concept showed that low-achieving and SEN students were found in larger numbers in co-taught classrooms, and particularly in co-taught mathematics. Upon further discussion with co-teachers from School A, it became apparent that low-achieving and SEN students were purposefully placed in smaller co-taught mathematics groups consisting of 9 to 16 students as a means of providing extra support in a similar manner to pull-out special education. In the teachers' experience, the placement of students in small co-taught mathematics classrooms in School A has had positive effects on students' academic achievement and motivation and has reduced the need for part-time special education and remedial teaching, thus freeing special needs teachers' time to participate in co-teaching in mainstream classrooms as well. However, the teachers' perceptions did not seem to be reflected in the data provided by the students: student motivation did not seem to be related to the co-taught setting, and the lower academic self-concept in co-taught mathematics corresponded to the lower grade average of those students.

These smaller co-taught classes likely account for the significant differences observed in students' academic achievement and self-concept in mathematics. They are not entirely representative of typical co-taught inclusive classrooms, since co-teaching is meant to take place in diverse groups consisting of students with varied academic and behavioural profiles (Bauwens et al., 1989; Cook & Friend, 1995) and should allow for the provision of special support in the mainstream classroom almost all of the time (Malinen et al., 2015). Furthermore, it can be argued that placement of low-achieving students in a smaller

group is in conflict with the idea of full inclusive education, which seeks to place all students in mainstream classrooms regardless of their academic abilities (UNESCO, 1994) and thus avoid the marginalisation of students in special class placement (Takala et al., 2009; Kvalsund & Bele, 2010).

As described by Huang (2011), Marsh and Martin (2011) and others, students' academic self-concept is directly correlated to their academic achievement. This correlation was reflected in the results of the study: observed differences in non-co-taught and co-taught students' academic self-concept were explained by the greater number of low-achieving and SEN students in co-taught classes. Students' academic self-concept seems not to have been affected by the co-taught setting as such. Since academic achievement and self-concept often reflect the efficacy of teachers' practice (Wright, Horn, & Sanders, 1997), it is reasonable to conclude that co-teaching was found to be as effective as traditional teaching methods in this context. These results are similar to those obtained by Murawski (2006), who found no statistically significant difference in the academic outcomes of co-taught and non-co-taught 9th grade students, despite other evidence showing that co-taught SEN students performed better than their non-co-taught peers in certain test areas (pp. 238–239).

However, the co-taught setting alone cannot guarantee improved academic achievement if co-teachers do not also adopt effective teaching practices (Savolainen, 2009). Unfortunately, research has shown that this is often not the case. In a meta-synthesis of studies of co-teaching, Scruggs et al. (2007) concluded that general education practices such as teacher-centered large-group instruction persisted in co-taught settings, which were characterised by a lack of innovative and individualised teaching. Many implementations of co-teaching were therefore far from meeting the conditions described by theoretical models (pp. 411–412). In a comparison of co-teaching with other implementations of special education, Vaughn et al. (1998) also found that students performed best when their teachers set high expectations for them, but such expectations were not present in the co-taught setting they studied (p. 434).

It is difficult to say whether the results of the current study are due to any of the factors mentioned above as data does not suffice. It is apparent that the analysis of the impact of co-teaching on students' academic achievement is a complex task, and further research in this area will undoubtedly be necessary.

8.1.2 Learning Environment

Students' involvement was expected to be greater in co-taught classrooms, since co-teaching should theoretically provide more opportunities for engagement (Cook & Friend, 1995; Malinen et al., 2015). Yet, results showed no significant difference in students' perception of their involvement when comparing non-co-taught and co-taught environments. In addition, collaboration between students was no different in regular and co-taught classrooms and even decreased in co-taught mathematics, whereas in theory, it should increase in co-taught settings (Scruggs et al., 2007, p. 401). The statistically significant difference between female and male students' perception of cooperation seems to fit with the theory that females tend to exhibit more collaborative behaviour in group settings (Molina et al., 2013). These results seem to indicate that teaching practices in co-taught classrooms are no more student-centered in nature than in regular classrooms and that individual student assignments are favoured over collaborative projects. Co-teaching is perhaps not being used at its fullest potential, but it is not possible to make any further conclusions based on the data of this study.

Results also showed that students' perceptions of equity were not significantly different in non-co-taught and co-taught settings. Considering the larger proportion of SEN students in co-taught classrooms, it can be concluded that the sample groups were more homogeneous than heterogeneous and student equity was therefore easier to achieve. It is nonetheless a positive observation that students are treated equitably in all settings.

8.1.3 Teacher Availability

Teacher availability was expected to be greater in co-taught settings due to the presence of an additional teacher, as outlined in Section 4.4. However, students perceived the same availability from their teachers in non-co-taught and co-taught classes. What's more, SEN students were expected to require more support than their peers without SEN, yet students' perceptions of the availability of their teachers were not affected by the kind of support for learning and schooling they received. It can therefore be concluded that students with and without SEN received sufficient support from their teachers in both co-taught and non-co-taught settings. It is possible that the form of co-teaching implemented in the sample schools and/or the increased presence of SEN students in co-taught classrooms requires more resources on the part of teachers in order to maintain the same level of availability as in regular classrooms. Another possible explanation is yet again the persistence of traditional educational practices in co-taught classrooms despite the added value of a co-teacher. Although co-teaching should theoretically provide more opportunities for the differentiation of instruction (Walsh and Snyder, 1993, p. 5), research has shown that teachers often fail to change their practice even in the context of co-teaching. For instance, Klingner and Vaughn (1999) reported that according to inclusive classroom students, only 1 in 17 teachers differentiated their teaching (p. 34). Murawski (2006) also found little difference in the practice of co-teachers as compared to that of general classroom teachers - teaching was not differentiated and consisted mostly of large-group instruction (p. 240). However, it is impossible to make conclusions on the effectiveness of the co-teaching models implemented in the context of the current study due to the lack of appropriate data.

8.1.4 Co-Teachers' Collaborative Relationship

As described in Section 4.5, the success of co-teachers' collaborative relationship is often an element of concern when implementing co-teaching. The present study showed that co-teachers in both sample schools seem to have established

working partnerships, as students perceived that their co-teachers have an equitable relationship and collaborate well, despite a few perceived differences between grades in certain subjects. These differences can probably be attributed to varying characteristics of the different co-teaching partnerships.

8.1.5 General Perceptions of Co-Teaching

Overall, participating students seem to have positive perceptions of their learning experience in co-taught classrooms. Interestingly, SEN students in mathematics and overall had more favourable perceptions than their general education counterparts, further reinforcing the idea that co-teaching is a practice with positive outcomes on students with learning difficulties. The less favourable perceptions of older students in certain subjects may be related to their longer experience of co-teaching; however, a longitudinal study of students' perceptions of co-teaching over several years would provide further insights into the matter.

Analysis of students' perception of confusion in co-taught settings also yielded a positive picture, as co-taught students did not feel particularly confused by the presence of two or more teachers. Contrary to other research findings (Leafstedt et al., 2007; Wilson & Michaels, 2006), students' perceptions were persistent across levels of received support for learning and schooling, indicating that the co-taught environment was not particularly distracting nor confusing for SEN students.

8.2 Generalisability and Limitations

8.2.1 Study Design

In examining the results of the current study, it is important to take into consideration several limitations that affect the conclusions which may be drawn. Although the size of the convenience sample used in the study was acceptable (226 students), several comparison groups consisted of fewer than 40 students: there were only 14 students in the smallest group, whereas the largest group was of

195 students. However, parametric tests have been found to be robust even in cases of small sample size (Norman, 2010). Another important limitation is that groups of largely unequal sizes were compared. For instance, the smallest difference between sample groups was of 3 students and the largest difference was of 164 students. Due to the limited availability of participating schools and the timeframe of the study, it was difficult to find similar samples of co-taught and non-co-taught students. Ideally, the control groups would have consisted of similar numbers of students in the same school grades and subjects as those that were co-taught. The disparity between non-co-taught and co-taught groups therefore limits the generalisability of the results.

The above limitations also led to the possibility of statistical error in the analysis of the data. Indeed, certain sample groups did not entirely correspond to normal distributions and a few analysis of variance tests did not meet the assumption of homogeneity of variance. Although parametric tests usually hold up to violations of the assumption of normality (Norman, 2010), a violation of homogeneity of variance is more likely to increase the chance of error when performing ANOVA (Rogan & Keselman, 1977).

The cross-sectional design of the study also limited the researcher's ability to draw conclusions on the effects of co-teaching on students' academic performance and self-concept as well as on the learning environment. Since the data were collected at a single point in time, observed differences between co-taught and non-co-taught students cannot be explained in terms of cause-and-effect on the basis of this study. In addition, it is difficult to rule out the effects of individual characteristics and environmental factors that may have played a role in students' responses. Some participants had only experienced co-teaching for a short time, and despite having made comparisons between 7th, 8th and 9th grade students to account for the length of students' experience of co-teaching, a cohort study would have provided more reliable and tangible results.

The survey research approach also limited the type and quantity of information that was gathered from the students. Although the instruments were selected in order to answer the research task, certain new questions arose from

the data analysis and were left unanswered for lack of data. For instance, a small number of students provided additional information by indicating on their questionnaires that they were studying Finnish as a second language. However, this information could not be used by the researcher, since it was not solicited in the questionnaire and it was impossible to identify other students in the same situation who did not report it. A mixed methods approach combining survey research with interviews or open-ended questions would have allowed to gain further insight into certain issues and also address unexpected questions as they came up.

Finally, the study design did not allow to control for the possibility of teachers' individual practice affecting students' perceptions as a distinct factor from the actual effects of co-teaching (see Murawski, 2006, p. 239). Although brief observations were conducted in co-taught classes, more rigorous long-term observation would have allowed for a better assessment of the quality of and effectiveness of teachers' practice in the participating schools.

8.2.2 Questionnaire and Instruments

In relation to the questionnaire, the following issues were noted during the analysis of the students' responses. First, there was some confusion over the terminology related to the support received by the students. A definition of intensified and special support had been written in collaboration with a special needs teacher from School A and included in the questionnaire (see Table 17). Nevertheless, confusion ensued amongst the students, who reported receiving support in greater numbers than as reported by the teachers. In addition, 11 students (5%) did not provide information regarding the kind of support they received.

The supervising professor of the study had expressed concern in regards to the provided definition, as he highlighted that it diverged from that of the *National Core Curriculum*, which states that the syllabus cannot be individualised unless a decision on special support has been made. Indeed, the provision of intensified support should enable the student to reach the goals of the regu-

lar syllabus (FNBE, 2011, p. 28). However, we decided to keep the definition, as we agreed that the teacher was the person with the best knowledge of the implementation of support in the school in question. The special needs teacher from School B later suggested that a definition based on the terms *learning plan* and *Individual Education Plan* might have been more familiar to the students. In addition, the collected data on students' support was not subject-specific, yet some students may have been receiving different kinds of support in different subjects. It is therefore difficult to draw conclusions on the correlation of received support with academic outcomes and self-concept in the different subjects.

TABLE 17. Definitions of Intensified and Special Support as Provided in the Students' Questionnaire

	Provided Definition	Translation
Intensified Support	Sinun oppimäärääsi on karsittu/muovattu.	Your syllabus has been cut down/adapted.
Special Support	Sinulla on henkilökohtaiset tavoitteet ja oppisisällöt.	You have individualised goals and syllabus contents.

Second, other issues were observed with regards to terminology in the student questionnaire. Some items in the subject-specific sections of the questionnaire used the phrasing "in this class" to refer to the subject in question. However, several students understood it as referring to the class they were physically in when filling out the questionnaire. There also seemed to be some confusion over whether the definition of co-teaching included special needs assistants, even though a relevant explanation was included in the questionnaire.

Third, despite the researcher's attempts to provide clear written and verbal instructions, students remained confused over which sections to fill according to their situation. Indeed, some co-taught students omitted the co-teaching survey and some non-co-taught students filled it out despite it being irrelevant to them. Naturally, a small number of student responses were also lost due to missed questions and invalid or ambiguous answers. For instance, 15 respondents (9%) omitted the first three items of the co-teaching survey pertaining to

EFL lessons despite being co-taught in that class, and 21 respondents (9%) did not fully complete the WIHIC questionnaire pertaining to EFL lessons.

8.3 Implications for Further Research

The findings of the present study are in line with those of most research on co-teaching: results are mostly favourable of co-teaching but strong, conclusive evidence of the efficacy of the practice is still scarce. Students, including those with SEN, have reported positive perceptions of co-teaching, their academic achievement is within the average and they seem to receive enough support in their co-taught classes. However, results seem to indicate that instruction in co-taught settings may fall short of that described by theoretical models of co-teaching. Indeed, co-taught environments seem to be characterised by a lack of opportunities for collaborative learning, a lack of student engagement as well as a lack of differentiated and varied teaching. As Klingner, Vaughn, Hughes, et al. (1998) stressed, “students with LD do not fare well academically in general education classrooms where undifferentiated, large-group instruction is the norm” (p. 153). In order to reach the goals of inclusive education, it is primordial for teachers to adapt their practice to the needs of their students.

It would therefore be important not only to familiarise teachers with co-teaching theory, but also develop teacher education and mentorship programs focused on research-based practice. Indeed, general education teachers in Finland have expressed dissatisfaction in their teacher education programs, which have failed at preparing them for their increased responsibility for special needs education and multiprofessional collaboration (Björn et al., 2016). In addition to more adequate teacher training, teachers should be given opportunities at the workplace to share experiences and ideas for collaborative learning projects and to learn from each other in order to improve their practice with collaborative, differentiated and engaging teaching.

As discussed earlier, despite the teachers’ good intentions, the placement of low achieving and SEN students in smaller separate co-taught groups is at

odds with the principles of inclusive education, even within the Finnish multi-tiered support model, which emphasises mainstream classroom solutions and additional support rather than pull-out solutions for the vast majority of students. Although co-teaching can no doubt prove beneficial in such small groups, the diversity of students in co-taught classrooms is an important element of most co-teaching frameworks (Bauwens et al., 1989; Cook & Friend, 1995). Indeed, it could be argued that a less segregative solution where these lower achieving and SEN students are included in the mainstream classroom would be preferable. Strategies such as parallel and alternative co-teaching could then be used to divide the students into smaller, but more diverse groups that are reshuffled from one lesson to another. In this way, all inclusive classroom students would benefit from the diversified instruction and increased differentiation brought by co-teaching. One could wonder whether schools are driven to make such placements due to the limited availability of special education resources, which is an often-cited problem in studies of inclusive education (Kauffman, 2017).

Throughout the course of this study, it became apparent that special education practices and teachers' interpretation of the curriculum vary greatly between schools, no doubt due to the broad autonomy that is given to municipalities, schools and teachers within the Finnish education system. Björn et al. (2016) address this issue by suggesting that the creation of a nation-wide resource centre could help schools establish common practices in accordance with the curriculum and support the implementation of evidence-based interventions in special and inclusive education.

Future research on the outcomes of co-teaching should ensure the effectiveness of the co-teaching implementations that are studied by conducting rigorous observation of co-teachers' practice. Student outcomes should be measured multiple times throughout co-teaching using well-validated instruments. For instance, Murawski (2006) stressed the importance of using curriculum-based assessments in measuring co-taught students' academic achievement (p.

244). Finally, it is important to include the voices of all students, not only those with SEN, as they are all beneficiaries of co-teaching in the inclusive classroom.

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APPENDICES

Appendix 1: Co-Teaching Checklist (Murawski & Lochner, 2011)

Murawski and Lochner

181

CO-TEACHING CHECKLIST				
General Educator: _____		Special Educator: _____		
Observer: _____		Date/Time: _____		
	LOOK FOR ITEMS	0 – Didn't See It 1 – Saw an Attempt 2 – Saw It Done Well		
		0	1	2
Two or more professionals working together in the same physical space.	0 = only one adult; two adults not communicating at all; class always divided into two rooms 1 = two adults in same room but very little communication or collaborative work 2 = two adults in same room; both engaged in class & each other (even if not perfectly)			
Class environment demonstrates parity and collaboration (both names on board, sharing materials, and space).	0 = no demonstration of parity/collaboration; room appears to belong to one teacher only 1 = some attempt at parity; both adults share materials and space 2 = clear parity; both names on board/report card; two desks or shared space; obvious feeling from teachers that it is "our room"			
Both teachers begin and end class together and remain in the room the entire time.	0 = one adult is absent or late; adults may leave room for time w/o reason related to this class 1 = one adult may be late but for remaining time, they work together 2 = both adults begin and end together, and are with students the entire time *note – if adults have planned to use a regrouping approach (e.g., "parallel") and one adult takes a group of students out of the room (e.g., to the library), that is perfectly acceptable			
During instruction, both teachers assist students with and without disabilities.	0 = adults are not helping students or are only helping "their own" students 1 = there is some helping of various students but adults primarily stay with a few of "their own" 2 = it is clear that both adults are willing to help all students & that students are used to this			
The class moves smoothly with evidence of co-planning and communication between co-teachers.	0 = all planning appears to have been done by one adult and/or no planning is evident 1 = minimal planning and communication is evident; most appears to be done by one adult 2 = it is clear that both adults had input in lesson and communicate regularly as class progresses			
Differentiated strategies, to include technology, are used to meet the range of learning needs.	0 = there is no evidence of differentiation of instruction or use of technology in the classroom 1 = there is minimal differentiation and use of technology; most differentiation appears to be focused on groups rather than individuals 2 = it is clear that adults considered individual student needs; differentiation and use of technology is used when needed to meet individual student needs, as well as that of the group			
A variety of instructional approaches (5 co-teaching approaches) are used, include regrouping students.	0 = Students remain in large class setting; Adults rely solely on One Teach/One Support or Team 1 = Adults regroup students (using Alternative, Parallel, or Station) at least once 2 = Adults use more than one of the 5 approaches (Friend & Cook's One Teach/One Support, Team, Parallel, Station & Alternative); at least one of the approaches involves regrouping students *note – if teachers have been observed using other approaches in the past and only one approach is observed today (e.g., Stations), it is acceptable to recall previous observations and give a 2 for using a variety of approaches as adults have demonstrated competency			
Both teachers engage in appropriate behavior management strategies as needed and are consistent in their approach to behavior management.	0 = there is no obvious plan for behavior management, nor do adults appear to communicate about how they are approaching class management; possibly inappropriate class management 1 = behavior management strategies are utilized but there is very little clear evidence of how adults have communicated about their use 2 = it is evident that adults have discussed how they will approach classroom/behavior management and adults are consistent in their approach; clear communication between adults			
It is difficult to tell the special educator from the general educator.	0 = Observer could easily determine who was the general/special educator by their language/roles/lack of parity. 1 = Observer could tell who was the general/special educator but there was a clear attempt at parity between the teachers. 2 = Observer would not be able to tell who was the general/special educator as parity was evident and adults shared the roles and responsibilities in the classroom.			
It is difficult to tell the special education students from the general education students.	0 = Observer could easily determine who were the general/special education students by their lack of integration (e.g., students at back or separated from class). 1 = Observer could tell who were the general/special education students but there was a clear attempt at inclusion of students for most activities. 2 = Observer would not be able to tell who were the general/special education students as parity was evident and adults shared the responsibilities for working with all students.			

Figure 3. Look-for items

CO-TEACHING CHECKLIST				
General Educator: _____		Special Educator: _____		
Observer: _____		Date/Time: _____		
LISTEN FOR ITEMS		0 – Didn't See It 1 – Saw an Attempt 2 – Saw It Done Well		
		0	1	2
Co-teachers use language ("we"; "our") that demonstrates true collaboration and shared responsibility.	0 = Adults use "I" language frequently (e.g., "I want you to ..." Or "In my class ..."), lacking parity. 1 = Adults attempt to use "we" language and include each other, but it is clear that one adult is more used to "ruling" the class. 2 = Adults clearly use "we" language (e.g., "We would like you to..."), showing that they both share the responsibility and students know they are equally in charge.			
Co-teachers phrase questions and statements so that it is obvious that all students in the class are included.	0 = Class is very teacher-directed and little involvement by students; questions/statements are general and not inclusive of all students. 1 = A few statements/questions are phrased to encourage participation from a variety of students. 2 = A clear attempt is made by both adults to engage all students through the use of a variety of types of questions and statements.			
Students' conversations evidence a sense of community (including peers with and without disabilities).	0 = Students do not talk to one another ever during class or specific students are clearly excluded from the student interactions. 1 = Most students appear to be included in the majority of student interactions. 2 = It is evident from the students' actions and words that all students are considered an equal part of the class and are included in all student interactions.			
Co-teachers ask questions at a variety of levels to meet all students' needs (basic recall to higher order thinking).	0 = Adults do not use questions or ask questions geared just to one level (to the middle or "watered down"). 1 = Adults use closed and open questions at a variety of levels in a general manner. 2 = Adults used closed and open questions at a variety of levels in a way that demonstrates they are able to differentiate for specific students in order to ensure maximum (appropriate) levels of challenge.			

Figure 4. Listen-for items

Co-Teaching Observations

Many administrative observation guides are designed for the single-teacher classroom and are often inappropriate for classes that are co-taught. By following the guidelines in this column, observers will know what to ask for, look for, and listen for in the co-taught classroom to better support those teachers working with children with disabilities in an inclusive setting. Naturally, as with typical observations, it is recommended that supervisors engage in multiple visits prior to making any final judgment on a teaching situation.

Observing co-teachers in an effort to provide feedback can be very helpful in aiding improvement. The checklists in this article were originally created by the first author and subsequently included by both authors into a software system designed to more effectively collect and analyze this type of data (Murawski & Lochner, 2007). Regardless of whether a school chooses to use an electronic or paper observation system, it is critical that data be collected, analyzed, and discussed so that schools can continue to identify the best practices for serving the needs of students with disabilities

in their inclusive settings. Without data, results are merely conjecture.

With NCLB (2001) and IDEIA (2004) demanding both accountability and individualization, teachers more than ever before are struggling to provide high-quality content instruction for diverse groups of students. By engaging in co-teaching, these teachers have the opportunity to meet those diverse needs in ways that they have not been able to in the past. However, administrative support is key to ensuring that teachers (a) know what co-teaching is, (b) know how to engage in best practices related to co-teaching and differentiation, (c) have sufficient time to co-plan, and (d) receive quality feedback in how to improve in their co-teaching practices (Murawski, 2008). This column is a first step for administrators and supervisors to truly know what they should be asking for, looking for, and listening for as they observe the co-taught classroom and give feedback for improvement to those teachers desperate for support. The result of this support will be teachers more able to collaborate and differentiate effectively and students who are now better able to access general education standards-based content because of their teachers' improved skills.

Appendix 2: Questionnaire

JYVÄSKYLÄN YLIOPISTO



KASVATUSTIETEIDEN LAITOS

18. tammikuuta 2016

SAMANAIKAISOPETUKSEN TUTKIMUKSEN KYSELYLOMAKE OPPILAILLE

Hyvä oppilas,

Pyydän sinua ystävällisesti vastaamaan tähän kyselyyn, joka on osa pro gradu -tutkielmani tutkimusta samanaikaisopetuksesta. Kysely sisältää taustatietokysely ja monivalintakysymyksiä. Vastaa itsenäisesti oman mielen mukaan, sillä oikeita tai väriä vastauksia ei ole.

Kyselyn täyttämiseen menee aikaa noin 20 minuuttia. Toivon sinun vastaavan kaikkiin kysymyksiin erittäin huolellisesti.

Kaikki vastauksesi tiedot käsitellään luottamuksellisesti, eikä sinua voida tunnistaa tutkimuksesta raportoidessa.

Kiitos osallistumisestasi!

Ystävällisin terveisin,

Aidan Mendoza Hayward
Kansainvälinen maisteriopiskelija
Kasvatustieteen laitos

Prof. Hannu Savolainen
Tutkielman ohjaaja
Kasvatustieteiden laitos/ erityispedagogiikka

1. TAUSTATIEDOT

Vaihtoehtotehtävissä ympyröi valitsemasi vaihtoehto ja avoimissa tehtävissä kirjoita vastauksesi viivalle.

1. Sukupuoli: N M
2. Luokka: 7. 8. 9.
3. Lukuvuoden **matematiikan** arvosanat (tähän asti): _____ _____ _____
4. Lukuvuoden **äidinkielen** arvosanat: _____ _____ _____
5. Lukuvuoden **englannin kielen** arvosanat: _____ _____ _____

Mikäli sinun **oppimääräsi on karsittu/muovattu**, sinulle annetaan **tehostettua** tukea.
Mikäli sinulla on **henkilökohtaiset tavoitteet ja oppisisällöt**, sinulle annetaan **erityistä** tukea.

	tehostettua tukea	erityistä tukea	ei kumpaakaan
1. Minulle annetaan:	1	2	3

Samanaikaisopetuksella tarkoitetaan opetusta, jossa luokkaan tulee luokanopettajan tai aineenopettajan lisäksi joko erityisopettaja tai toinen aineenopettaja, **eikä koulunkäynnin ohjaaja**.

	ei koskaan	harvoin	joskus	usein	aina
1. Opiskelen matematiikan luokassa, jossa on käytössä samanaikaisopetus:	1	2	3	4	5
2. Opiskelen äidinkielen luokassa, jossa on käytössä samanaikaisopetus:	1	2	3	4	5
3. Opiskelen englannin kielen luokassa, jossa on käytössä samanaikaisopetus:	1	2	3	4	5

2. MITEN MIELELLÄSI...

Seuraavat väittämät kuvaavat **miten mielelläsi käyt koulussa**. Ympyröi jokaisen väittämän kohdalta **yksi** vaihtoehto, joka kuvaa parhaiten sinun mielipidettäsi. Ei siis ole oikeita tai väärä vastauksia.

Vastaa **KAIKKIIN KYSYMYKSIIN**. Jos et ymmärrä jotain kohtaa, pyydä opettajaltasi apua.

Miten mielelläsi:	Erittäin mielelläni	Joskus mielelläni	En oikein mielelläni	En koskaan mielelläni
1. käyt koulussa?	1	2	3	4
2. teet koulussa lukemiseen liittyviä tehtäviä?	1	2	3	4
3. teet koulussa kirjoittamiseen liittyviä tehtäviä?	1	2	3	4
4. teet koulussa matematiikkaan liittyviä tehtäviä?	1	2	3	4
5. teet kotona lukemiseen liittyviä tehtäviä?	1	2	3	4
6. teet kotona kirjoittamiseen liittyviä tehtäviä?	1	2	3	4
7. teet kotona matematiikkaan liittyviä tehtäviä?	1	2	3	4

3. OPPIMISMINÄKÄSITYS

Seuraavat väittämät kuvaavat **sinua itseäsi**. Ympyröi jokaisen väittämän kohdalta **yksi** vaihtoehto, joka kuvaa parhaiten sinua. Ei siis ole oikeita tai väärä vastauksia.

Vastaa **KAIKKIIN KYSYMYKSIIN**. Jos et ymmärrä jotain kohtaa, pyydä opettajaltasi apua.

Väittämä on kohdallani:	Totta, pitää paikkansa	Jonkin verran totta	Siltä väliltä	Ei juurikaan totta	Väärin, ei pidä paikkansa
1. Olen hyvä kouluaineissa.	1	2	3	4	5
2. Saan hyviä arvosanoja lukemisesta.	1	2	3	4	5
3. Inhoan matematiikkaa.	1	2	3	4	5
4. Pidän kaikkien kouluaineiden opiskelusta.	1	2	3	4	5
5. Pidän lukemisesta.	1	2	3	4	5
6. Matematiikan opiskelu on minulle helppoa.	1	2	3	4	5
7. Saan hyviä arvosanoja kaikissa kouluaineissa.	1	2	3	4	5
8. Olen hyvä lukemaan.	1	2	3	4	5
9. Odotan innolla matematiikkaa.	1	2	3	4	5
10. Inhoan kaikkia kouluaineita.	1	2	3	4	5

Task-Value Scale for Children (TVS-C). Nurmi, J.-E. & Aunola, K. (1999). Muok. Hannu Savolainen, Jyväskylän yliopisto.

SDQI Self Description Questionnaire. Marsh, H. (1992). Kään. Hannu Savolainen, Itä-Suomen yliopisto.

Väittäjä on kohdallani:	Totta, pitää paikkansa	Jonkin verran totta	Siltä väliltä	Ei juurikaan totta	Väärin, ei pidä paikkansa
11. Olen kiinnostunut lukemisesta.	1	2	3	4	5
12. Saan hyviä arvosanoja matematiikassa.	1	2	3	4	5
13. Teen monenlaisia tärkeitä asioita.	1	2	3	4	5
14. Opin asiat nopeasti kaikissa kouluaineissa.	1	2	3	4	5
15. Olen tyhmä lukemisessa.	1	2	3	4	5
16. Olen kiinnostunut matematiikasta.	1	2	3	4	5
17. Kaiken kaikkiaan olen aika huono.	1	2	3	4	5
18. Olen kiinnostunut kaikista kouluaineista.	1	2	3	4	5
19. Pidän lukemistehtävistä.	1	2	3	4	5
20. Opin asiat nopeasti matematiikassa.	1	2	3	4	5
21. Yleisesti ottaen pidän siitä millainen olen.	1	2	3	4	5
22. Olen tyhmä kaikissa kouluaineissa.	1	2	3	4	5
23. Lukemistehtävät ovat minulle helppoja.	1	2	3	4	5
24. Pidän matematiikasta.	1	2	3	4	5
25. Kaiken kaikkiaan voin olla ylpeä monista asioista.	1	2	3	4	5
26. Odotan innolla kaikkia kouluaineita.	1	2	3	4	5
27. Odotan innolla, että pääsen lukemaan.	1	2	3	4	5
28. Olen hyvä matematiikassa.	1	2	3	4	5
29. En osaa tehdä mitään oikein.	1	2	3	4	5
30. Kaikkien kouluaineiden opiskelu on minulle helppoa.	1	2	3	4	5
31. Inhoan lukemista.	1	2	3	4	5
32. Osaan tehdä asiat yhtä hyvin kuin useimmat muutkin.	1	2	3	4	5
33. Pidän matematiikan opiskelusta.	1	2	3	4	5
34. Toiset pitävät minua hyvänä ihmisenä.	1	2	3	4	5
35. Pidän kaikista kouluaineista.	1	2	3	4	5
36. Monet asiat minussa ovat hyviä.	1	2	3	4	5
37. Opin asiat nopeasti lukemisessa.	1	2	3	4	5
38. Olen yhtä hyvä kuin useimmat muut ihmiset.	1	2	3	4	5
39. Olen tyhmä matematiikassa.	1	2	3	4	5
40. Kun teen jotain, teen sen hyvin.	1	2	3	4	5

4. OPPIMISYMPÄRISTÖ

Seuraavat väittämät kuvaavat **luokkasi oppimisympäristöä**. Kysytään sinulta, **kuinka usein** jokainen käytäntö **tapahtuu**. Ympyröi jokaisen väittämän kohdalta **yksi vaihtoehto, joka kuvaa parhaiten mitä luokassasi tapahtuu**. Ei siis ole oikeita tai väärä vastauksia.

Vastaa **KAIKKIIN KYSYMYKSIIN**, vaikka jotkut väittämät näyttäisivät samalta. Jos et ymmärrä jotain kohtaa, pyydä opettajaltasi apua.

4.1. Oppimisympäristö matematiikan luokassa

Seuraavat väittämät liittyvät **matematiikan luokkaan**. Kerro, mitä tapahtuu **matematiikan luokassasi**.

	Matematiikan luokassa:	Ei lähes koskaan	Harvoin	Joskus	Usein	Melkein aina
1.	Opettaja on kiinnostunut minusta.	1	2	3	4	5
2.	Opettaja on aina valmis auttamaan minua.	1	2	3	4	5
3.	Opettaja ottaa minun tunteeni huomioon.	1	2	3	4	5
4.	Opettaja auttaa minua, kun minulla on vaikeuksia tehtävissä.	1	2	3	4	5
5.	Opettaja puhuu kanssani.	1	2	3	4	5
6.	Opettaja on kiinnostunut ongelmistani.	1	2	3	4	5
7.	Opettaja liikkuu luokassa puhuakseen minulle.	1	2	3	4	5
8.	Opettajan kysymykset auttavat minua ymmärtämään.	1	2	3	4	5
9.	Keskustelen ideoista oppitunnilla.	1	2	3	4	5
10.	Kerron mielipiteeni luokassa käydyissä keskusteluissa.	1	2	3	4	5
11.	Opettaja kysyy minulta kysymyksiä.	1	2	3	4	5
12.	Minun ideoitani ja ehdotuksiani hyödynnetään luokassa käydyissä keskusteluissa.	1	2	3	4	5
13.	Kysyn opettajalta kysymyksiä.	1	2	3	4	5
14.	Selitän ideoitani muille oppilaille.	1	2	3	4	5
15.	Muut oppilaat keskustelevat kanssani ongelmien ratkaisuista.	1	2	3	4	5
16.	Minua pyydetään selittämään, miten ratkaisen ongelmia.	1	2	3	4	5
17.	Toimin yhdessä muiden oppilaiden kanssa tehdessäni oppimistehtäviä.	1	2	3	4	5
18.	Jaan kirjojani ja materiaalejani muiden oppilaiden käyttöön tehdessäni oppimistehtäviä.	1	2	3	4	5
19.	Kun työskentelen ryhmässä, yhteistyö toimii.	1	2	3	4	5
20.	Työskentelen muiden tämän luokan oppilaiden kanssa projekteissa.	1	2	3	4	5

What Is Happening In this Class (WIHC) Questionnaire. Fraser, B. J., McRobbie, C. J., & Fisher, D. L. (1996). Kään. Aidan Mendoza Hayward & Hannu Savolainen, 2015, Jyväskylän yliopisto.

	Matematiikan luokassa:	Ei lähes koskaan	Harvoin	Joskus	Usein	Melkein aina
21.	Opin asioita tämän luokan muilta oppilailta.	1	2	3	4	5
22.	Työskentelen muiden oppilaiden kanssa tässä luokassa.	1	2	3	4	5
23.	Teen yhteistyötä muiden oppilaiden kanssa luokan tehtävissä.	1	2	3	4	5
24.	Muut oppilaat toimivat kanssani saavuttaaksemme luokan oppimistavoitteet.	1	2	3	4	5
25.	Opettaja ottaa minun kysymykset huomioon yhtä hyvin kuin muiden oppilaiden kysymykset.	1	2	3	4	5
26.	Saan yhtä paljon apua opettajalta kuin muut oppilaat.	1	2	3	4	5
27.	Minulla on yhtä paljon sananvaltaa kuin luokan muilla oppilailla.	1	2	3	4	5
28.	Minua kohdellaan samalla tavalla kuin muita luokan oppilaita.	1	2	3	4	5
29.	Saan samanlaista kannustusta opettajalta kuin muut oppilaat.	1	2	3	4	5
30.	Minulla on samanlaiset mahdollisuudet osallistua keskusteluihin kuin muilla oppilailla.	1	2	3	4	5
31.	Työtäni kehuutaan yhtä paljon kuin muiden oppilaiden työtä.	1	2	3	4	5
32.	Minulla on yhtä hyvät mahdollisuudet vastata opettajan kysymyksiin kuin muilla oppilailla.	1	2	3	4	5

4.2. Oppimisympäristö äidinkielen luokassa

Seuraavat väittämät liittyvät äidinkielen luokkaan. Kerro, mitä tapahtuu äidinkielen luokassasi.

	Äidinkielen luokassa:	Ei lähes koskaan	Harvoin	Joskus	Usein	Melkein aina
1.	Opettaja on kiinnostunut minusta.	1	2	3	4	5
2.	Opettaja on aina valmis auttamaan minua.	1	2	3	4	5
3.	Opettaja ottaa minun tunteeni huomioon.	1	2	3	4	5
4.	Opettaja auttaa minua, kun minulla on vaikeuksia tehtävissä.	1	2	3	4	5
5.	Opettaja puhuu kanssani.	1	2	3	4	5
6.	Opettaja on kiinnostunut ongelmistani.	1	2	3	4	5
7.	Opettaja liikkuu luokassa puhuakseen minulle.	1	2	3	4	5
8.	Opettajan kysymykset auttavat minua ymmärtämään.	1	2	3	4	5
9.	Keskustelen ideoista oppitunnilla.	1	2	3	4	5
10.	Kerron mielipiteeni luokassa käydyissä keskusteluissa.	1	2	3	4	5
11.	Opettaja kysyy minulta kysymyksiä.	1	2	3	4	5

	Äidinkielen luokassa:	Ei lähes koskaan	Harvoin	Joskus	Usein	Melkein aina
12.	Minun ideoitani ja ehdotuksiani hyödynnetään luokassa käydyissä keskusteluissa.	1	2	3	4	5
13.	Kysyn opettajalta kysymyksiä.	1	2	3	4	5
14.	Selitän ideoitani muille oppilaille.	1	2	3	4	5
15.	Muut oppilaat keskustelevat kanssani ongelmien ratkaisuisista.	1	2	3	4	5
16.	Minua pyydetään selittämään, miten ratkaisen ongelmia.	1	2	3	4	5
17.	Toimin yhdessä muiden oppilaiden kanssa tehdessäni oppimistehtäviä.	1	2	3	4	5
18.	Jaan kirjojani ja materiaalejani muiden oppilaiden käyttöön tehdessäni oppimistehtäviä.	1	2	3	4	5
19.	Kun työskentelen ryhmässä, yhteistyö toimii.	1	2	3	4	5
20.	Työskentelen muiden tämän luokan oppilaiden kanssa projekteissa.	1	2	3	4	5
21.	Opin asioita tämän luokan muilta oppilailta.	1	2	3	4	5
22.	Työskentelen muiden oppilaiden kanssa tässä luokassa.	1	2	3	4	5
23.	Teen yhteistyötä muiden oppilaiden kanssa luokan tehtävissä.	1	2	3	4	5
24.	Muut oppilaat toimivat kanssani saavuttaaksemme luokan oppimistavoitteet.	1	2	3	4	5
25.	Opettaja ottaa minun kysymykset huomioon yhtä hyvin kuin muiden oppilaiden kysymykset.	1	2	3	4	5
26.	Saan yhtä paljon apua opettajalta kuin muut oppilaat.	1	2	3	4	5
27.	Minulla on yhtä paljon sananvaltaa kuin luokan muilla oppilailla.	1	2	3	4	5
28.	Minua kohdellaan samalla tavalla kuin muita luokan oppilaita.	1	2	3	4	5
29.	Saan samanlaista kannustusta opettajalta kuin muut oppilaat.	1	2	3	4	5
30.	Minulla on samanlaiset mahdollisuudet osallistua keskusteluihin kuin muilla oppilailla.	1	2	3	4	5
31.	Työtäni kehuaan yhtä paljon kuin muiden oppilaiden työtä.	1	2	3	4	5
32.	Minulla on yhtä hyvät mahdollisuudet vastata opettajan kysymyksiin kuin muilla oppilailla.	1	2	3	4	5

4.3. Oppimisympäristö englannin kielen luokassa

Seuraavat väittämät liittyvät **englannin kielen luokkaan**. Kerro, mitä tapahtuu **englannin kielen luokassasi**.

	Englannin kielen luokassa:	Ei lähes koskaan	Harvoin	Joskus	Usein	Melkein aina
1.	Opettaja on kiinnostunut minusta.	1	2	3	4	5

	Englannin kielen luokassa:	Ei lähes koskaan	Harvoin	Joskus	Usein	Melkein aina
2.	Opettaja on aina valmis auttamaan minua.	1	2	3	4	5
3.	Opettaja ottaa minun tunteeni huomioon.	1	2	3	4	5
4.	Opettaja auttaa minua, kun minulla on vaikeuksia tehtävissä.	1	2	3	4	5
5.	Opettaja puhuu kanssani.	1	2	3	4	5
6.	Opettaja on kiinnostunut ongelmistani.	1	2	3	4	5
7.	Opettaja liikkuu luokassa puhuakseen minulle.	1	2	3	4	5
8.	Opettajan kysymykset auttavat minua ymmärtämään.	1	2	3	4	5
9.	Keskustelen ideoista oppitunnilla.	1	2	3	4	5
10.	Kerron mielipiteeni luokassa käydyissä keskusteluissa.	1	2	3	4	5
11.	Opettaja kysyy minulta kysymyksiä.	1	2	3	4	5
12.	Minun ideoitani ja ehdotuksiani hyödynnetään luokassa käydyissä keskusteluissa.	1	2	3	4	5
13.	Kysyn opettajalta kysymyksiä.	1	2	3	4	5
14.	Selitän ideoitani muille oppilaille.	1	2	3	4	5
15.	Muut oppilaat keskustelevat kanssani ongelmien ratkaisusta.	1	2	3	4	5
16.	Minua pyydetään selittämään, miten ratkaisen ongelmia.	1	2	3	4	5
17.	Toimin yhdessä muiden oppilaiden kanssa tehdessäni oppimistehtäviä.	1	2	3	4	5
18.	Jaan kirjojani ja materiaalejani muiden oppilaiden käyttöön tehdessäni oppimistehtäviä.	1	2	3	4	5
19.	Kun työskentelen ryhmässä, yhteistyö toimii.	1	2	3	4	5
20.	Työskentelen muiden tämän luokan oppilaiden kanssa projekteissa.	1	2	3	4	5
21.	Opin asioita tämän luokan muilta oppilailta.	1	2	3	4	5
22.	Työskentelen muiden oppilaiden kanssa tässä luokassa.	1	2	3	4	5
23.	Teen yhteistyötä muiden oppilaiden kanssa luokan tehtävissä.	1	2	3	4	5
24.	Muut oppilaat toimivat kanssani saavuttaaksemme luokan oppimistavoitteet.	1	2	3	4	5
25.	Opettaja ottaa minun kysymykset huomioon yhtä hyvin kuin muiden oppilaiden kysymykset.	1	2	3	4	5
26.	Saan yhtä paljon apua opettajalta kuin muut oppilaat.	1	2	3	4	5
27.	Minulla on yhtä paljon sananvaltaa kuin luokan muilla oppilailla.	1	2	3	4	5
28.	Minua kohdellaan samalla tavalla kuin muita luokan oppilaita.	1	2	3	4	5
29.	Saan samanlaista kannustusta opettajalta kuin muut oppilaat.	1	2	3	4	5

	Englannin kielen luokassa:	Ei lähes koskaan	Harvoin	Joskus	Usein	Melkein aina
30.	Minulla on samanlaiset mahdollisuudet osallistua keskusteluihin kuin muilla oppilailla.	1	2	3	4	5
31.	Työtäni kehitetään yhtä paljon kuin muiden oppilaiden työtä.	1	2	3	4	5
32.	Minulla on yhtä hyvät mahdollisuudet vastata opettajan kysymyksiin kuin muilla oppilailla.	1	2	3	4	5

5. SAMANAIKAISOPETUS

Seuraavat väittämät kuvaavat **käsitystäsi samanaikaisopetuksesta**. Ympyröi jokaisen väittämän kohdalta **yksi** vaihtoehto, joka kuvaa parhaiten mielipidettäsi. Ei siis ole oikeita tai vääriä vastauksia.

Vastaa **KAIKKIIN KYSYMYKSIIN**. Jos et ymmärrä jotain kohtaa, pyydä opettajaltasi apua.

5.1. Samanaikaisopetus matematiikan luokassa

Seuraavat väittämät liittyvät **matematiikan luokkaan**. Kerro, mitä tapahtuu **matematiikan luokassasi**. Mikäli matematiikan luokassasi ei ole samanaikaisopetusta ollenkaan, jatka kohdalle 5.2.

	Matematiikan luokassa:	Totta, pitää paikkansa	Jonkin verran totta	Ei juurikaan totta	Väärin, ei pidä paikkansa
1.	Kun opettajat ovat samanaikaisopetustilanteessa luokassamme, he mielestäni jakavat opetustyön tasapuolisesti.	1	2	3	4
2.	Kun luokassamme on samanaikaisopetusta, molemmat opettajat vaikuttavat tyytyväisiltä työnjakoonsa.	1	2	3	4
3.	Mielestäni molemmat opettajat ovat tasavertaisia luokassamme.	1	2	3	4
4.	Mielestäni molemmat opettajat nauttivat luokkamme opettamisesta.	1	2	3	4
5.	Opin enemmän, kun meillä on kaksi opettajaa luokassa.	1	2	3	4
6.	Kun meillä on kaksi opettajaa luokassa, he käyttävät useampia tapoja opettaa kuin yksi opettaja.	1	2	3	4
7.	Opin paremmin kahden opettajan avulla samanaikaisopetustilanteessa.	1	2	3	4
8.	Tuntuu hankalalta, kun luokassa on kaksi opettajaa.	1	2	3	4
9.	Kunpa kaikilla oppitunneillani olisi kaksi opettajaa.	1	2	3	4
10.	Opiskelisin mieluummin yhden opettajan kanssa.	1	2	3	4
11.	Oppilaat käyttäytyvät paremmin, kun luokassa on kaksi opettajaa.	1	2	3	4
12.	Joskus on epäselvyyttä, kun luokassa on kaksi opettajaa.	1	2	3	4
13.	Nautin siitä, kun meillä on kaksi opettajaa luokassa.	1	2	3	4
14.	Kun meillä on samanaikaisopetusta, toinen opettaja vahtii käyttäytymistämme ja toinen opettaja vastaa opetuksesta.	1	2	3	4

	Matematiikan luokassa:	Totta, pitää paikkansa	Jonkin verran totta	Ei juurikaan totta	Väärin, ei pidä paikkansa
15.	Kun meillä on samanaikaisopetusta, toinen opettajista osaa selittää asiat paremmin kuin toinen.	1	2	3	4

5.2. Samanaikaisopetus äidinkielen luokassa

Seuraavat väittämät liittyvät **äidinkielen luokkaan**. Kerro, mitä tapahtuu **äidinkielen luokassasi**. Mikäli äidinkielen luokassasi ei ole samanaikaisopetusta ollenkaan, jatka kohdalle 5.3.

	Äidinkielen luokassa:	Totta, pitää paikkansa	Jonkin verran totta	Ei juurikaan totta	Väärin, ei pidä paikkansa
1.	Kun opettajat ovat samanaikaisopetustilanteessa luokassamme, he mielestäni jakavat opetustyön tasapuolisesti.	1	2	3	4
2.	Kun luokassamme on samanaikaisopetusta, molemmat opettajat vaikuttavat tyytyväisiltä työnjakoonsa.	1	2	3	4
3.	Mielestäni molemmat opettajat ovat tasavertaisia luokassamme.	1	2	3	4
4.	Mielestäni molemmat opettajat nauttivat luokkamme opettamisesta.	1	2	3	4
5.	Opin enemmän, kun meillä on kaksi opettajaa luokassa.	1	2	3	4
6.	Kun meillä on kaksi opettajaa luokassa, he käyttävät useampia tapoja opettaa kuin yksi opettaja.	1	2	3	4
7.	Opin paremmin kahden opettajan avulla samanaikaisopetustilanteessa.	1	2	3	4
8.	Tuntuu hankalalta, kun luokassa on kaksi opettajaa.	1	2	3	4
9.	Kunpa kaikilla oppitunneillani olisi kaksi opettajaa.	1	2	3	4
10.	Opiskelisin mieluummin yhden opettajan kanssa.	1	2	3	4
11.	Oppilaat käyttäytyvät paremmin, kun luokassa on kaksi opettajaa.	1	2	3	4
12.	Joskus on epäselvyyttä, kun luokassa on kaksi opettajaa.	1	2	3	4
13.	Nautin siitä, kun meillä on kaksi opettajaa luokassa.	1	2	3	4
14.	Kun meillä on samanaikaisopetusta, toinen opettaja vahtii käyttäytymistämme ja toinen opettaja vastaa opetuksesta.	1	2	3	4
15.	Kun meillä on samanaikaisopetusta, toinen opettajista osaa selittää asiat paremmin kuin toinen.	1	2	3	4

5.3. Samanaikaisopetus englannin kielen luokassa

Seuraavat väittämät liittyvät **englannin kielen luokkaan**. Kerro, mitä tapahtuu **englannin kielen luokassasi**. Mikäli englannin kielen luokassasi ei ole samanaikaisopetusta ollenkaan, voit palauttaa kyselylomakkeen.

	Englannin kielen luokassa:	Totta, pitää paikkansa	Jonkin verran totta	Ei juurikaan totta	Väärin, ei pidä paikkansa
1.	Kun opettajat ovat samanaikaisopetustilanteessa luokassamme, he mielestäni jakavat opetustyön tasapuolisesti.	1	2	3	4
2.	Kun luokassamme on samanaikaisopetusta, molemmat opettajat vaikuttavat tyytyväisiltä työnjakoonsa.	1	2	3	4
3.	Mielestäni molemmat opettajat ovat tasavertaisia luokassamme.	1	2	3	4
4.	Mielestäni molemmat opettajat nauttivat luokkamme opettamisesta.	1	2	3	4
5.	Opin enemmän, kun meillä on kaksi opettajaa luokassa.	1	2	3	4
6.	Kun meillä on kaksi opettajaa luokassa, he käyttävät useampia tapoja opettaa kuin yksi opettaja.	1	2	3	4
7.	Opin paremmin kahden opettajan avulla samanaikaisopetustilanteessa.	1	2	3	4
8.	Tuntuu hankalalta, kun luokassa on kaksi opettajaa.	1	2	3	4
9.	Kunpa kaikilla oppitunneillani olisi kaksi opettajaa.	1	2	3	4
10.	Opiskelisin mieluummin yhden opettajan kanssa.	1	2	3	4
11.	Oppilaat käyttäytyvät paremmin, kun luokassa on kaksi opettajaa.	1	2	3	4
12.	Joskus on epäselvyyttä, kun luokassa on kaksi opettajaa.	1	2	3	4
13.	Nautin siitä, kun meillä on kaksi opettajaa luokassa.	1	2	3	4
14.	Kun meillä on samanaikaisopetusta, toinen opettaja vahtii käyttäytymistämme ja toinen opettaja vastaa opetuksesta.	1	2	3	4
15.	Kun meillä on samanaikaisopetusta, toinen opettajista osaa selittää asiat paremmin kuin toinen.	1	2	3	4

Kiitos osallistumisestasi! 😊

Appendix 3: Letter to Parents

JYVÄSKYLÄN YLIOPISTO



KASVATUSTIETEIDEN LAITOS

27. tammikuuta 2016

Tiedote oppilaiden kotiin
[redacted] koulu

TIEDOTE: TUTKIMUS SAMANAIKAISOPETUKSESTA

Hei,

Olen kansainvälinen kasvatustieteen opiskelija Jyväskylän yliopistossa. Teen tällä hetkellä Pro gradu -tutkimusta samanaikaisopetuksesta [redacted] koulussa.

Työni tarkoituksena on tutkia oppilaiden näkökulmia samanaikaisopetuksesta erityisopetusmenetelmänä. Olen mm. kiinnostunut siitä, mitä mieltä oppilaat ovat oppimisympäristöstä ja opettajilta saadusta tuesta samanaikaisopetustilanteessa.

Tutkimusmenetelmänä oppilaat täyttävät kyselylomakkeen. Kyselyyn vastaaminen tapahtuu yhden oppitunnin aikana, ja siihen menee aikaa noin 20 minuuttia. Olen saanut luvan tutkimuksen toteuttamiseen koulun rehtorilta.

Tutkimuksen aineisto käsitellään luottamuksellisesti eikä tutkimusraportista yksittäistä oppilasta voi tunnistaa. Kyselystä saatavaa aineistoa ei käytetä muuhun kuin kyseisen tutkimuksen tekoon.

Mikäli teille tulee tutkimuksesta kysyttävää, ottakaa yhteyttä minuun alla olevilla tiedoilla. Pro gradu -työni ohjaa Jyväskylän yliopiston kasvatustieteiden laitoksen professori Hannu Savolainen.

Ystävällisin terveisin,

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