

2019

# Lesson Study: Professional Development for and Collaboration Between General and Special Educators

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Corsini, Natalie, "Lesson Study: Professional Development for and Collaboration Between General and Special Educators" (2019). *Master of Science in Education*. 7.  
<https://doi.org/10.33015/dominican.edu/2019.EDU.06>

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**Lesson Study: Professional Development for and Collaboration Between General and  
Special Educators**

By  
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This thesis, written under the direction of the candidate's thesis advisor and approved by the program chair, has been presented to and accepted by the Department of Education in partial fulfillment of the requirements for the degree of Master of Science in Education.

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May 2019



## Abstract

While much research addresses the benefits of collaborative professional development, such as Professional Learning Communities and Lesson Study, special educators are often left out of these opportunities. This research focuses on the problems related to limited and specialized collaboration between general and special educators. In addition, special educators are leaving the field at high rates, and often report feelings of isolation and disconnect. This study builds upon current research, with the purpose of explaining how Lesson Study impacts collaboration between general educators and special educators. An explanatory sequential mixed methods approach was used to provide a multifaceted view of the collaborative Lesson Study. This research includes survey data from general and special educators, video data of pre and post discussions from four Lesson Studies, and interviews from teachers, after completing the Lesson Study. The results demonstrate that problem-solving is cyclical during the Lesson Study process and teachers experience benefits from the cyclical opportunities to reflect, collaborate, and improve teaching practices. Lesson Study between general and special educators, at one school-site, challenges the traditional hierarchy between general and special education programs, showing that teachers can work together to improve the practices of all teachers and therefore the learning of all students.

## **Acknowledgments**

First and foremost, I would like to thank Professor Jennifer Lucko for being patient with me, for your ongoing support, and for pushing me to complete my degree! I would also like to thank Professor Jaci Urbani for supporting me through this process and for believing in me. I could not have done this without my amazing participants in this research. Thank you for your hard work and dedication to the team and to the students. Thank you for being open, honest, and for trusting the process. Thank you to my administrators and co-workers who supported me by covering my classes and being flexible with me, while I traveled back and forth to class. Finally, I am so grateful to my family, friends, and loved ones who understood how to cheer me up, keep me going, and make me laugh. You didn't let me give up and I can't thank you enough.

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## **Chapter 1: Introduction**

Imagine being surrounded by people on a daily basis, but still feeling isolated. This is how many teachers feel in the single classroom environment. Their days are engulfed with caring for the needs of students, while interactions with adults, people of support, are sparse. Isolation is only one of many factors that drive a teacher's intent to leave the field. Statistics show that 50% of teachers leave the profession within the first five years (Dicke, Stebner, Linninger, Kunter, & Leutner, 2018).

This problem is magnified in the field of special education. Special education teachers report feelings of isolation, lack of collaboration, and lack of understanding about what they do, and an overall lack of support (Gersten, Keating, Yovanoff & Harniss, 2001). Special education teachers feel dissatisfaction with others' perceptions of their work (Gersten et al., 2001).

Attrition rates are higher in special education, more than any other teacher group, with special educators leaving at a rate of 13% each year (Emery & Vandenberg, 2010). Samuels and Harwin (2018) report that the special education teacher population has decreased by 17% in the last decade, while the special education student population has only decreased by 1%. Teachers report dissonance in the idea that they should be focused on teaching but instead are working on reports and paperwork (Gersten et al., 2001).

### **Statement of Purpose**

The purpose of this study was to discover the impact of Lesson Study, when utilized as a form of teacher collaboration, and teacher led professional development, for both special educators and general educators. The research was aimed at understanding the effects of this

collaborative process on the collaboration between general education and special education teachers.

Professional development is an important method used to support teachers. Professional development is synonymous to learning, and most professions use such programs as a vehicle to maintain and advance training and education in a particular field. Some examples of professional development may be training sessions, in areas such as specific curriculum, behavior management, district orientations, and strategy trainings. Professional development improves knowledge in a profession, increases investment in a profession, increases understanding of a field, and increases interest in further professional development opportunities (Ciarocco, Dinella, Hatchard, & Valosin, 2016).

In education, professional development also has an impact on teacher beliefs, teacher skills, student outcomes, and teacher self-efficacy. Numerous studies have investigated the effectiveness of professional development and its positive or negative impact on professionals. For example, educators do not always report that they experience effective professional development (Nasser & Romanowski, 2011). Teachers report that it is mostly a “top down,” structure, which means that district administration is required to plan and produce professional development opportunities while the teacher’s job is to show up for the opportunity and then follow the program that has been presented (Nasser & Romanowski, 2011, p. 166). Teacher beliefs around professional development indicate that teachers feel that professional development can be repetitive, not aligned with educator needs, tied to budget restrictions, and may lack continuity (Nasser & Romanowski, 2011). This negative impact is significant because ineffective professional development may continue rather than reverse the cycle towards low job satisfaction and high turnover rates.

Much research covers the benefits and drawbacks of collaboration. To collaborate is to work jointly with others on a specific topic (Da Fonte & Barton-Arwood, 2017; Gersten et al., 2001; Legutko, 2015; Mavropalias & Anastasiou, 2016). Collaboration is reported as a means to increase general and special educators' intent to stay in the profession (Gersten et al., 2001). In education, special educators report that collaboration has the power to increase a desire to stay in the field (Gersten et al., 2001). Specifically, special education teachers desire support from other teachers, more collaboration with general education teachers, and more collaboration with other special education staff (Gersten et al., 2001). Collaboration can come in many forms such as curriculum planning, analyzing student data results, planning lessons, creating classroom placement, and strategizing student groups. Although there is some research about special educators' beliefs towards collaboration, there is a general lack of collaboration between special and general educators as a means to improve skills such as flexibility, planning, and teaching strategies (Da Fonte & Barton-Arwood, 2017; Legutko, 2015; Mavropalias & Anastasiou, 2016). There is also a lack of collaboration between general and special educators, unless it focuses directly on meeting the needs of students with IEPs.

This study's focus was to combat the current conditions that prevent collaboration for special educators (Khairuddin, Dally, & Foggett, 2016). Many conversations between special educators and general educators stem from the desire to "fix" a special education student, because of his or her deficits (Candela et al., 2018). Teachers may discuss how to fix student behavior problems, low performance or grades, or challenges in the classroom. Rarely, however, are special educators included in discourse about meeting the needs of all learners. General educators are seen as experts in content, curriculum, and whole class teaching (Langovic-Milicvic, Radic-Sestic, Milanovic-Dobrota, Radovanovic, & Slavkovic, 2013), while special

educators are seen as experts in assessment and adapting materials (Langovic-Milicvic et al., 2013). This role delineation often leaves special educators out of opportunities to improve their own teaching practices.

An aim of this study was to bring awareness to special and general educators, administrators, and educational leaders, about the impact of Lesson Study. In addition, a goal of the study was to understand how we can use methods such as the Lesson Study, to improve instructional practices, advance collaboration between general and special educators, and break down the hierarchy between general and special education programs. This research sought to further the conversation of how educators can collaborate in a meaningful way. This research was not aimed at requiring educators to partake in a similar Lesson Study, and it was not aimed at directing general or special educators to collaborate in the exact same way. It was my hope that the Lesson Study would be one additional professional practice for general and special educators to use towards the aims of collaboration and improved instructional practice. There are many other ways to do so, but this research is one piece of that conversation. Although this Lesson Study took place at one site, there may be even more power in collaborating with teachers at other schools and other districts. This research brought general and special educators of different experiences, backgrounds, strengths, and skill sets together and allowed each participant to gain support, feedback, guidance, and knowledge from one another. Furthermore, the intent of the research was to support teachers through collaboration and reflection opportunities, so they are able to work together to meet the needs of all students, including general education students, intervention students, English Language Learners, and students with disabilities. The goal was that the participating teachers feel connected, supported, and liberated

within a commonly isolating system. I hope that special education teachers also understand their value as instructors.

### **Research Question**

Research shows collaboration is a generally accepted way to improve education and develop professionally (Egodawatte, McDougall, & Stoilescu, 2011; Ibrahim & Süleyman Yildiz, 2017; Shachar & Shmuelewitz, 1997). However, in special education, collaboration is limited and is usually used for the purpose of meeting the needs of special education students. There is a lack of research about collaboration between general and special educators with the goals of improving the learning of teachers and improving all students (Gersten et al., 2001). This research aims to answer this question: How does Lesson Study as a form of professional development affect collaboration between general education and special education teachers?

### **Research Design**

This study addressed collaboration between special and general educators throughout the process of four separate lesson studies. To recruit teachers to participate in the Lesson Study, an email was sent out, to all teachers within one school, explaining the process, timeline, and desired participants (special and general educators). Three teachers responded to the email proposal and agreed to partake in the Lesson Study, which lasted over half of a school year. The teachers were all selected from one school site, in order to convene during lunch and afterschool, so as not to disrupt the school day. The teachers selected were all from one elementary school, one that I also worked at and had access to both staff and students. The school was located in a suburban area, in the San Francisco Bay Area of California. The suburban school covered grades kindergarten through fifth-grade and had 413 total students. Class sizes ranged from 18-27

students per class. During the research the student population included 20% of students designated as low income, 10% of students with IEPs and 14% of students designated as English Language Learners (ELLs). The study included 4 teachers total, including myself. Two of the teachers were special educators and two teachers were general educators. The two resource specialists (special educators) covered grades kindergarten through third-grade and fourth through fifth grade. Both general education teachers taught third grade. The teachers were all Caucasian and three out of the four teachers taught at this school site for their entire career. The teachers experience in education ranged from 5-33 years.

Throughout the study, four Lesson Studies were completed, which included the following: a pre-lesson discussion, a viewing of approximately 15 minutes of the teacher's lesson, and a post-lesson discussion. Teachers were given choice in which subject area and a choice of student groupings to focus on, but it was suggested to use this time for problem-solving and/or to highlight a group of students that was challenging. All teachers chose to highlight a small group of students, for the purpose of improving student outcomes. These students included, but were not limited to, students with IEPs, English Language Learners, students working below grade level, and students working at grade level.

Each teacher had the opportunity to "lead" one Lesson Study, including a pre-discussion, teaching a lesson, and a post-discussion, for the purpose of reflecting and gaining feedback from the three other participating teachers. All discussions were videotaped. An explanatory sequential mixed methods design was utilized throughout the study. In the first, quantitative phase of the study, survey data was collected from the group of three teachers, excluding myself, in order to understand teacher beliefs about general information about the Lesson Study such as collaboration, teaching practices, student academic and behavior outcomes, reflection, and

flexibility. At the end of the semester, after all lesson studies were completed, I led a 20-30 minute interview with each of the three teachers. This qualitative phase was conducted as a follow up to the quantitative results. In this follow up, interview questions were used to explore teacher beliefs around teaching experiences, collaboration, professional development, and Lesson Study experience. In addition, the pre- and post-Lesson Study discussion videos were all viewed, transcribed, and analyzed for additional data about the collaborative problem-solving process, such as feedback, reflection, communication, and teacher skills and strategies.

As a participant in the Lesson Study, I made my position clear that I was trying this model for the first time, along with the other teachers, and I did not expect anyone to feel the need to carry on this process after the research ended. I also communicated to the participating teachers that I would be learning along with them, and that we would need to make adjustments to the process, to make it align with our schedule, prioritizing our work and our students first.

### **Significance of Study**

The results of the study showed that Lesson Study between general education and special education teachers worked as a method of collaborative professional development that benefitted all teachers. The Lesson Study research included special education teachers in professional development, which is focused on improving teaching practices. All teachers reported that they learned about their own teaching and improved their teaching practice by taking part in the Lesson Study. In addition, they reported that they reflected on their teaching practices and that the collaboration between general and special educators was mutually beneficial. Although a problem-solving model was initiated, problem-solving never ended, and teachers continually used their collaborative time to bring up and attempt to solve new problems.

This research breaks down the typical separation that exists between general and special education teachers, as all teachers were treated equally in their ability to provide suggestions and communicate about curriculum, content, teaching strategies, resources, and student supports. Students were also treated equally in the process, which furthers the move towards inclusion. Teachers were given opportunities to reflect and therefore came to recognize that the problems in their classrooms could not be resolved by their students, but were their own responsibilities to solve, which improves the access of education to all students.

### **Significance of Research Implications**

Special educators are often left out of the collaborative and professional development opportunities offered to general education teachers; however with the move towards inclusion, and the high rate of special education teacher attrition rates, these educators should not be left out of professional learning experiences. These opportunities can decrease isolation, decrease depersonalization, and increase special educators intent to stay in the field. The Lesson Study research between general and special educators broke down the separation between general and special education programs and can be used as a tool to further the move towards inclusive practices in education. The findings from the Lesson Study illustrate how it can be used as a method to improve all teachers' practices and give access to education for all learners. The Lesson Study process challenged the Deficit Model in special education because all teachers took responsibility for improving instruction and instructional tools, rather than placing blame on or attempting to "fix" students with disabilities. In addition, the Lesson Study is a collaborative model that affected the working conditions of special education teachers, by providing support, allowing for reflection and growth, and by increasing equity through breaking down the separation between general and special education programs. The Lesson Study was also a form

of teacher-led professional development, which broke down the barriers to collaboration and professional development, by providing choice, structured time, and an opportunity to collaborate in a meaningful way.

## Chapter 2: Review of the Literature

### Introduction

The strain of excessive workloads and isolating design of single teacher classrooms are only two of the many reasons why teachers are leaving the field at high rates. In the United States, recent statistics show that teacher attrition rates have ranged between 30-50% (Wang, Hall, & Rahimi, 2015). More specifically, 33% of new teachers leave the profession in the first three years, 50% of teachers leave within the first five years, and 10% of all teachers quit yearly (Wang et al., 2015). Much of this attrition has been linked to teacher burnout. Burnout is defined as, “the state of physical and emotional depletion resulting from conditions of work,” (Faskhodi & Siyyari, 2018, p. 79). It is most common among people in the caring professions, such as therapy and nursing. Burnout has been widely researched in education, especially with its relationship to attrition, work engagement, and the education system as a whole (Faskhodi & Siyyari, 2018; Wang et al., 2015). Burnout is comprised of, “emotional exhaustion, depersonalization, and reduced personal accomplishment,” (Faskhodi & Siyyari, 2018, p. 80). Symptoms of burnout are mental and physical exhaustion, having high levels of stress, and feeling depleted of personal resources (Faskhodi & Siyyari, 2018).

Depersonalization is a means to protect oneself from burnout and can be seen through teachers distancing and detaching themselves emotionally from students, coworkers, and parents (Emery & Vandenberg, 2010). Teachers that are under stress from high workloads may detach from their work and from colleagues, in order to cope (Emery & Vandenberg, 2010). When teachers experience depersonalization, they have more negative feelings towards others and may have more difficulty collaborating with parents, colleagues, administration, and students (Emery

& Vandenberg, 2010). Depersonalization also drives teachers to think of students “as diagnostic categories than individuals (Emery & Vandenberg, 2010, p.120). For example, students may be categorized into “high level students,” or “behaviorally challenging students,” rather than treating all students as unique and respected individuals. Depersonalization can lead to more isolation (Emery & Vandenberg, 2010).

Collaboration and professional development are critical components of sustaining positions in education, which can reduce high teacher turnover rates and decrease isolation. In addition, reflection is necessary to improve teacher skills and to support all students. Opportunities to reflect occur during collaborating with others and through professional development opportunities. However, collaboration between general educators and special educators has been narrowly directed towards the purpose of meeting the needs of students with IEPs, as opposed to improving the instruction of those students. Yet recent research on their collaboration is limited, and mostly covers how to improve student outcomes for students with disabilities (Da Fonte & Barton-Arwood, 2017; Legutko, 2015; Mavropalias & Anastasiou, 2016). In contrast, this research aims to discover how Lesson Study affects collaboration between general education and special education teachers.

In the following review of the academic literature, I will first describe teacher collaboration, its benefits, drawbacks, and limitations. I will delve deeper into some current and commonly used methods of teacher collaboration, such as Professional Learning Communities and Lesson Study. In addition, I will unpack advantages and challenges spanning from collaboration between special and general educators. Next, I will discuss the benefits and limitations of professional development in education. I will discuss the differences between top down and teacher led professional development and the role of Lesson Study in professional

development. Finally, I will discuss the hierarchy between general and special education programs, including its impact on both collaboration between general and special educators and its influence on students.

## **Collaboration**

Collaboration is the act of collectively producing or creating. Collaboration is a tool that many educators use to improve professionally. It is an essential part of most professions, including education. The definition of collaboration in education is complex, as collaboration includes a range of activities such as sharing information or teaching experiences, visiting other classrooms, co-planning lessons and units, giving and receiving feedback, and coordinating assessments. Research has covered the importance of educators collaborating as a means to gain knowledge, problem-solve, and make classroom improvements (Egodawatte et al., 2011; Ibrahim & Süleyman Yildiz, 2017; Leibowitz, Herman, & Farmer, 2015; Shachar & Shmuelevitz, 1997). In addition, collaboration is linked to improved teacher and student outcomes (Khairuddin et al., 2016). Collaboration has also been linked to giving teachers more influence and independence, as they do not need to rely on administration for guidance (Nasser & Romanowski, 2011).

The benefits of collaboration in education include improved teacher skills and strategies, improved student outcomes, improved ability to reflect, improved teacher self-efficacy, and an improved desire to stay in the field (Egodawatte et al., 2011; Ibrahim & Süleyman Yildiz, 2017; Shachar & Shmuelevitz, 1997). However although beneficial, effective collaboration in education and other fields can be challenging. Basic requirements for “successful” collaboration in education are adequate time, communication, content knowledge, and skill-building in conflict management (Da Fonte & Barton-Arwood, 2017). Significant research has been conducted to

answer the questions, “What is gained from teacher collaboration?” and “Why should we even bother?” According to Banerjee, Stearns, Moller, & Mickelson (2017):

As opposed to schools with well-entrenched cultures of isolation and individualism, schools with cultures of collegiality and collaboration help teachers to resolve issues easily, to promote learning of new teaching tools, and to enhance professional competence, ultimately creating a more satisfied, committed, and professionally involved teacher workforce” (p.10).

Collaboration has the ability to produce support for teachers, build opportunities to solve problems, and advance the learning of teachers and students.

Collaboration can create meaningful change and has the potential to support teacher’s pedagogy. In 2019, educators have opportunities to collaborate in person and online.

Collaboration increases the ability to share information. When teachers connect, especially in person, they are better able to share teaching ideas, strategies, and techniques (Ibrahim & Süleyman Yildiz, 2017). Collaborating leads to increased teacher awareness about their teaching strengths and weaknesses and allows for pathways to improve gaps in teacher skills (Ibrahim & Süleyman Yildiz, 2017). Teachers are able to ask for direct feedback from others in their areas of need. In this way, teachers are able to improve their reflective skills and better serve students (Schneider & Kipp, 2015). Working together, teachers share their highs and lows, and problem-solve in ways that are not possible in isolation. In the process of teacher collaboration, teachers are also able to improve their classroom and behavior management skills, by appropriating strategies from other teachers (Ibrahim & Süleyman Yildiz, 2017). Collaboration is a proven means to improve a teacher's ability to develop and refine his or her skills.

The benefits of collaboration extend beyond teachers. Teacher collaboration is directly linked to improved student outcomes (Egodawatte et al., 2011; Reeves, Pun, & Chung, 2017). Collaboration during the planning, instructing, and reflective phases of teaching can have a significant impact on student outcomes. When teachers collaborate to develop lessons, materials, objectives, and student assessments, student achievement is improved (Reeves et al., 2017). Collaboration has also been shown to improve teacher responsibility around student learning (Banerjee, Stearns, Moller, & Mickelson, 2017). For example, a study involving 11 schools and participants including teachers, department heads, and administrators revolved around a series of collaborative math workshops. Results showed that teachers reported improved student success in 9th grade mathematics (Egodawatte et al., 2011).

Another specific form of collaboration is the Professional Learning Community (PLC). A PLC is defined as a group of educators that regularly meet together with a goal of improving teaching practices and improving student outcomes. PLCs allow teachers to work in a social and collaborative manner, which supports sharing and autonomy (Wells & Feun, 2013). In a PLC, teachers have opportunities to ask questions, observe and be observed, solve problems, share ideas, and give and receive feedback. Recent research suggests that these collaborative experiences in PLCs improved teachers' self-efficacy and increased student development (Zonoubi, Eslami Rasekh, & Tavakoli, 2017). PLCs are traditionally comprised of grade level teams (e.g. kindergarten, third grade, ninth grade), yet special education professionals are often left out of these specific opportunities, because of an emphasis on time spent on report writing and IEP implementation. However, positive and powerful collaborative experiences, such as PLCs, are not reproducible by simply putting general or special educators together to work in a

collaborative manner. There are many important factors to successful collaboration, and many problems that stem from collaborative experiences in education.

Extensive research has been done on the collaboration between special and general education teachers, looking into the benefits, drawbacks, and challenges of collaboration (Khairuddin et al., 2016; Legutko, 2015; Mavropalias & Anastasiou, 2016). Most research focuses on how the collaboration between general educators and special educators improves the social and academic achievement outcomes for students with special needs (Candela et al., 2018; Mavropalias & Anastasiou, 2016). Typically, special educators experience collaboration in a different way than general educators because their collaboration is focused on meeting the needs of students with IEPs. Although it is limited for special educators, opportunities to collaborate increase desires to stay in the field (Gersten et al., 2001). However, special educators desire more opportunities to collaborate with both general educators and fellow special educators (Gersten et al., 2001). One significantly researched method of collaboration is co-teaching between a general and a special educator (Mavropalias & Anastasiou, 2016). Co-teaching is generally defined as two individuals providing instruction to a group of students. A reported drawback of this method is that special educators are often used as “support” teachers in this collaboration and do not participate in instructional planning or sharing the role of lead teacher (Mavropalias & Anastasiou, 2016). The structure of co-teaching is important, and just having two people in one classroom doesn’t always lead to more specialized and differentiated instruction for all students (Mavropalias & Anastasiou, 2016).

In addition, a recent study of co-teaching between general and special educators exposed other limitations of the model. In this study, secondary general educators and special educators worked as co-teachers in different single subject areas (e.g. English, Science, etc.) (Legutko,

2015). Some important components to the success of co-teaching are time and shared knowledge. Specifically, Legutko (2015) discussed the need for extensive and structured time to collaborate and the need for shared subject area knowledge. Results of the study showed that general educators felt that special educators lacked specific subject content knowledge, and general educators treated the special educators as their “aides” rather than their co-teachers (Legutko, 2015). Although results showed that the presence of a special educator improved student outcomes for both general and special education students, the lack of collaboration showed a weakness in the effectiveness of this collaborative co-teaching method. Thus, not all collaboration is beneficial. Structure, time, support, and shared knowledge need to be in place for successful collaborative experiences.

Co-teaching is only one method in which special and general educators can collaborate. Other methods are directed at inclusion of students with IEPs. Recent research on inclusion has shown that effective collaboration between general and special educators is needed for successful inclusion and improved performance of students with special needs (Legutko, 2015). Teachers are responsible for scheduling and leading these opportunities because there are no specific times, structures, or requirements for effective collaboration. There are limited “rules” or “regulations” on how general and special educators collaborate. One example of a rule is if consult minutes are included in an IEP, then those minutes are specified (e.g. 30 minutes a week) and need to be legally followed. However, if that is not the case, the amount of time needed to collaborate is left up to general and special education teachers. Detailed research has been conducted to look at the effectiveness, benefits, and drawbacks of this type of collaboration (Khairuddin et al., 2016), which was illustrated in a recent study conducted in Malaysia, including 48 teachers, across 26 schools, which described collaborative experiences in detail

(Khairuddin et al., 2016). Results showed that although special education and general education teachers report maintaining respectful relationships with one another, they report a general disconnect (Khairuddin et al., 2016). For example, special educators reported that they made limited contact with their general education teacher counterparts (Khairuddin et al., 2016). Moreover, many teachers reported that they collaborated when walking around the school or at recess, which shows that there is limited planning and collaboration between teachers (Khairuddin et al., 2016). This demonstrates that even given the opportunity for voluntary collaboration none may occur, which ultimately prevents successful inclusion of special education students. Some additional barriers to collaboration between general and special educators are lack of training, time, lack of content knowledge, and difficulty communicating with others (Da Fonte & Barton-Arwood, 2017). Special educators desire more collaboration, which has the ability to increase outcomes for special education teachers and their students (Gersten et al., 2001).

Lesson Study has also been regarded as an effective form of teacher collaboration for the purpose of professional learning and improving both teacher and student outcomes. The practices that contribute to what we know as Lesson Study started in 19th century Japan (Groves, Doig, Vale, & Widjaja, 2016). In 1999, significant research was published by Yoshida (1999) and Stigler and Hiebert (1999), which made Lesson Study internationally known (Groves et al., 2016). Their research was aimed at understanding how Lesson Study can improve instruction and contribute to professional learning. By the early 2000's, the practice of Lesson Study was occurring in countries such as the United States, Canada, Malaysia, Indonesia, the Netherlands, Australia, and parts of Africa and South America (Groves et al., 2016). The original Japanese Lesson Study structure follows four main steps: creating short- and long-term goals, planning a

lesson to address goals, one member teaching the lesson with others observing and collecting data/evidence, and a post-lesson discussion/reflection about possible strengths or improvements needed (Groves et al., 2016). Ideally, after the Lesson Study is completed, teachers come away with ideas for how to improve and make changes to the lesson, gain new ideas for instruction, and learn how to improve techniques to impact student learning (Groves et al., 2016). All teachers involved observe, collect evidence, and contribute to discussions.

Traditional Japanese Lesson Study is unique in a few different ways. The lesson planned and produced is typically centered around problem-solving and a research question, so that students are challenged to use multiple sources to solve the open-ended problem (Groves et al., 2016). In addition, members of the Lesson Study can include as many as 100 people, such as the principal, outside members, and other teachers (Groves et al., 2016). Over time, as the Lesson Study practice was adopted by other countries, changes were made to the structure, members, contributions, and outcomes. Some of these adjustments were made purposefully, and others came from changes in culture and context. For example, Hiebert & Stigler (2017), argue that Japan's perspective and use of Lesson Study is more effective because Japan focuses on improving "teaching," while the United States use the same techniques to improve the teacher (Groves et al., 2016; Hiebert & Stigler, 2017). In the U.S., instead of using Lesson Study to improve instructional practices, it is used to improve the person [teacher]. Furthermore, in Japan there has been a change in the way that students and teachers work with the content (e.g. science, math) (Hiebert & Stigler, 2017), while in the United States, the way that both students and teachers relate to content has stayed the same (Hiebert & Stigler, 2017).

Prior research has covered the benefits of the Lesson Study process for teachers (Hiebert & Stigler, 2017), including the ability of Lesson Study to improve pre-service and in-service

teachers' subject area knowledge and pedagogical knowledge about a specific subject area (Bahçivan, 2017). In other terms, this means that teachers are gaining knowledge in what to teach and how to teach it. Lesson Studies are therefore collaborative vehicles for all participating teachers to improve their teaching skills and strategies (Mokhele, 2017). Lesson Study is a collaborative process, because teachers are working together, rather than in isolation, to plan and implement lessons. This provides relief from the common feelings of isolation. It is especially supportive to inexperienced teachers, who uniquely benefit from the support and expertise of collaborating with experienced teachers (Regan et al., 2016). Teachers feel more supported working together and also feel a sense of collective responsibility to improve student achievement (Mokhele, 2017).

The Lesson Study process involves time to reflect, encourages teachers to talk about possible self-improvements, and supports the idea that iterations, multiple trials of teaching a lesson, are positive rather than negative experiences in teaching (Mokhele, 2017). This emphasis on reflection is crucial, because teachers welcome the opportunity to improve. After taking part in a Lesson Study, teachers report improved confidence in their ability to be observed and their ability to receive feedback in a non-judgmental setting (Mokhele, 2017). In addition, the Lesson Study provides a place for teachers to receive honest praise and constructive feedback (Chong & Kong, 2012).

In addition, research has also been produced that explains the benefits of Lesson Study for students (Mokhele, 2017). One of the goals of Lesson Study is to better understand student learning, student levels, and how students learn (Mokhele, 2017). One teacher gives the lesson, while all of the participating teachers are observing and collecting evidence of student learning. Specifically, teachers are able to observe what and how students learn and also observe student

behaviors. Teachers are able to take this information, reflect on it, make changes to the lesson and instruction as needed, and apply it toward the goal of improved student learning (Mokhele, 2017). In turn, students benefit from teacher practices of improving and evolving instruction based on evidence of learning (Mokhele, 2017). This means that the model of Lesson Study necessitates a close relationship between teacher instruction and student outcomes. As instruction changes and is improved by reflection and data collection, student achievement also increases.

As Lesson Study was adapted and practiced all over the world, research has detailed the difficulties and challenges in its translation to other cultures, countries, and contexts (Bjuland & Mosvold, 2015). When Lesson Studies are reproduced by both pre-service and in-service teachers, there are many cases when the process veers from the original structure and goals of Lesson Study, causing changes in possible positive outcomes. For example, in Norway, research including pre-service teachers participating in a Lesson Study showed that there was a lack of visible student “problem-solving,” which is typically shown in Japanese Lesson Studies. That is, if students are working on worksheets, in textbooks, or on notebooks, it is difficult for observers to take note of significant student learning. The lack of visible problem-solving made it difficult for teachers to observe student learning (Bjuland & Mosvold, 2015).

There are many challenges in implementing Lesson Study with fidelity. Funding of Lesson Studies is a barrier in many countries. In a recent case study of an Australian adoption of Lesson Study, results showed that continuous funding and strong administrative support was needed to make Lesson Study research possible (Groves et al., 2016). In addition, more funding would also be needed for it to continue after the research was finished (Groves et al., 2016). This is difficult in countries wherever funding for education is low and budgets are tight. Teacher release time for participation in Lesson Study is also a challenge. In Japan, often students are

sent home for the last lesson of the day, so that all teachers are free to observe (Groves et al., 2016). When this is not possible in other countries, districts, or schools, time becomes a constraint that challenges the implementation a Lesson Study with complete fidelity. Different curriculum also limits the effectiveness of Lesson Study. Results of an Australian Lesson Study showed that Australian teachers had difficulty creating problem-solving tasks to align with their curriculum (Groves et al., 2016). Challenges with curriculum, content, time, and money are a few examples that have limited the implementation and effectiveness of Lesson Study throughout the world.

### **Professional Development**

Professional development is an essential component in public and private education. Much research discusses the impact of weekly, monthly, and yearly professional development for teachers (Apsari et al., 2017; Ciarocco et al., 2016; Ibrahim & Süleyman Yildiz, 2017; Van Schalkwyk, Leibowitz, Herman, & Farmer, 2015). Professional development is defined as education or training with the goal of improving competency, skill, and effectiveness in a profession. In education, it is perceived to be beneficial for teachers, but with the larger goal of benefiting students and improving student outcomes. Professional development increases student learning. It is closely linked to student academic and behavior outcomes. A large component of professional development research has demonstrated the link between teacher professional development and improved student outcomes (Apsari et al., 2017; Groves et al., 2016; Hill, Bicer, & Caparo, 2017). Studies have shown that when professional development hours increase, student outcomes, measured by test scores, also increase (Hill et al., 2017).

Research has covered the effects of professional development on teachers, including improved teaching skills, teaching strategies, organization methods, data collection and

evaluation, behavior management, and expanding content knowledge (Ibrahim & Süleyman Yildiz, 2017; Apsari et al., 2017; Ciarocco et al., 2016; Van Schalkwyk et al., 2015). Broadly, it is a means of improving teacher performance (Apsari et al., 2017; Ciarocco et al., 2016; Ibrahim & Süleyman Yildiz, 2017; Timperley, 2011). Timperley (2011) discusses the shift in education into using professional development so that teachers become learners. Educational professional development has been acknowledged as a way to solve many teaching and learning challenges, rather than specifically to solve problems with certain student populations (Timperley, 2011). Assessing teachers' needs and progress towards goals is an important step in the professional development process (Timperley, 2011). For example, if a district determines that there is a need to improve overall math instruction, then they may hire an internal or external source to provide training to teachers, although this might not be what teachers identify as their need. The goal is for teachers to come away with greater skills, better strategies, and improved content knowledge, and to be better prepared for the school year. In turn, the evaluation of teacher practices and strategies can come out of professional learning opportunities (Timperley, 2011). Professional development in education also works towards the goal of closing the skills gap between inexperienced and experienced teachers. New teachers are provided more professional development hours and training, but experienced teachers are also given opportunities for ongoing development.

There are benefits and drawbacks of current teacher professional development. One benefit is that teacher development can be a catalyst for education reform. However, teacher beliefs toward reform do not always align, which is a drawback. Professional development is traditionally structured and implemented through a "top down" process (Nasser & Romanowski, 2011). Although teachers agree that development is needed and important, the "top down"

process makes teachers feel that administration does not always correctly identify teacher needs (Nasser & Romanowski, 2011). This means that district administration has the control and decides what specific development is needed. Oftentimes, administration hires an internal or external team to provide the training and as part of an educator's job, they are required to take part in the specified development. Conversely, in teacher-led professional development, teachers have more responsibility and choice in the process of their professional development programming (Nasser & Romanowski, 2011).

Recent research examines teacher beliefs about their own professional development, and seeks teacher opinions about how to improve it. Nasser and Romanowski (2011) discuss teachers' beliefs towards their own professional development. Teachers report that they need more professional development that supports their critical thinking, reflection, and perspective (Nasser & Romanowski, 2011). Teachers feel that they need support, flexibility, and choice as essential parts of effective professional learning (Van Schalkwyk et al., 2015). Ineffective professional development is potentially damaging because it can reduce teacher beliefs about their need to improve professionally.

In the field of special education, when teachers participate in professional development, they also report higher belief in their ability to work with special education children (Chao, Chow, Forlin, & Ho, 2017). These positive feelings are linked to decreased attrition rates. Professional development opportunities are also linked to improved commitment to a profession, improved skills, and greater depth of content knowledge (Ciarocco et al., 2016). Therefore, professional development may also build teacher commitment. Learning opportunities are one critical success factor that teachers report as an area that would increase their desire to stay in the field (Gersten et al., 2001).

The Lesson Study Model has been explored as a method of teacher professional development to improve the skills of teachers and improve student outcomes. In its structure, Lesson Study is a form of “teacher led” professional development. Much research has been done on the effectiveness of Lesson Study for a teacher’s development (Apsari et al., 2017). Apsari et al., (2017) state “Lesson Study is one of the strategies in improving the quality of teacher profession since it can improve the quality of teaching practice” (p. 303). Lesson study has recently been proven as an effective way to improve teacher professional development, precisely because it is “teacher led.” Moreover, Lesson Study has the ability to impact students by improving teachers’ academic, creative, and social skills (Apsari et al., 2017).

Bjuland and Mosvold (2015) discuss some of the limitations of Lesson Study when used as professional development. When important components of the lesson are missing, the professional learning may be compromised (Bjuland & Mosvold, 2015). Some essential components are: using a research question based lesson model and visible and observable student learning opportunities (Bjuland & Mosvold, 2015). Another essential component is context. The context of the Lesson Study and its purpose and goals are also important and affect participant relationships. If there is added pressure to use Lesson Study to save a “failing” district or school, then participants may feel rigid and less open to collaboration (Hadfield & Jopling, 2016). When there are expectations to raise achievement, lead teachers feel a need to share expertise, and participating teachers may not feel like their voices are important, which produces a difficult environment to discuss, reflect, observe, and be open to change or improvement (Hadfield & Jopling, 2016).

Another limitation of Lesson Study occurs when teachers have different depths of subject area knowledge (Bahçivan, 2017). Teachers who collaborate throughout the Lesson Study

process are asked to collectively plan, teach or observe, and reflect on goals, student learning, and instruction. However, if teachers are being asked to plan a science lesson on the topic of forces and motion, there may be teachers that have a deeper understanding of the topic while other teachers may be inexperienced or have a superficial understanding of the subject. This may cause difficulties and inequalities among participants when discussing planning, observing student learning, assessing student learning, and reflecting. In a recent study among pre-service teachers, lack of subject matter knowledge led to teachers being limited in their understanding of student learning, throughout the Lesson Study process (Bahçivan, 2017). In addition, during some Lesson Studies, a lead teacher is required to come to the pre-lesson discussion prepared with a written lesson plan. This is problematic because the teacher has done all the thinking, organizing, and planning before the first meeting. Therefore, the planning becomes “invisible” to participants (Fujii, 2016). This may mean that although teachers learn to adapt and change a lesson, planning the lesson is not a significant professional learning skill acquired through Lesson Study (Fujii, 2016). Nevertheless, Lesson Study, when effectively used as a method of professional development has the ability to improve teachers and students. Traditionally, special educators have been left out of this process, and lack opportunities to develop their teaching skills or to improve their practice (Groves et al., 2016).

### **Hierarchy between General Education and Special Education Programs**

Collaboration has gradually increased within the context of the history of special education. During 1950-70's, increased collaboration between parents and legislators, doctors and parents, parents and teachers, teachers and doctors, advocates and parents, and teachers and advocates, supported the advancement of people with disabilities (Spaulding & Pratt, 2015). Prior to the 1980's general and special education classrooms were separated, meaning students

and teachers from both programs were also separate, and there was a general lack of collaboration between general education and special education teachers (Spaulding & Pratt, 2015). In 1974, the Education for All Handicapped Children Act (EHA) was passed and because of this, in the following years, special education students began to mainstream into general education classrooms, but only for a portion of the school day (Spaulding & Pratt, 2015). Therefore, special education students were still separated from the general education population (Langovic-Milicvic et al., 2013). Since the 1980's, general education and special education teachers have collaborated, in some capacity, to meet the needs of special education students. Currently, research has covered the work towards inclusivity (Kirby, 2017). Although the current special education model does not support full inclusion, this move towards inclusion would change the way that special education and general education programs are structured, because special education students would be included in the general education program, using supports, accommodations, and modifications (Langovic-Milicvic et al., 2013). This model necessitates general education and special education teachers collaborating and working together to meet the needs of all learners (Kirby, 2017).

The history of special education has affected the perceptions of general and special educators. The traditional hierarchy of the general and special education programs emphasizes the perceived differences between teacher roles. In traditional education, the general education teacher is perceived as being responsible for curriculum and content knowledge in order to teach a whole class, while the special educator is perceived as the teacher with the specialized knowledge, such as adapting materials and implementing assessments (Langovic-Milicvic et al., 2013). This delineation clearly divides the roles and responsibilities of special educators and general educators. However, recent techniques, such as co-teaching, have attempted to challenge

this separation and blur the lines between the roles (Da Fonte & Barton-Arwood, 2017). Co-teaching brings a general education and special education teacher into the same classroom, with the goal of teaching to meet the needs of all learners.

In addition, the history of special education has affected the way that general and special educators sometimes talk about special education students. One way that educators talk about students with disabilities is to focus on “fixing” these students (Candela et al., 2018). In the Deficit Model in special education, conversations between special and general educators about students focus primarily on the deficits or weaknesses of the student. Context is not taken into consideration, and the strengths of the student are overlooked (Candela et al., 2018). Recent research, in Arizona, between faculty and graduate students highlighted the disadvantages of the model and offered some alternatives to the traditional Deficit Model in mathematics and special education (Candela et al., 2018). This research described the importance of changing the idea of “fixing” a student to “uncovering the knowledge children do have,” (p. 1388). In addition, another challenge to the model is to increase access to education for all, especially by looking at the responsibility of the surrounding environment or the context of learning (Candela et al., 2018). Rather than focusing on “fixing” the student’s deficits, researchers focused on how to increase access to the tools needed to succeed (Candela et al., 2018). The questions become, “How do we fix the environment,” and “How do we change our instruction?” instead of “How do we fix the student?”

Response to Intervention (RTI) aligns with the current separation of general and special education programs. RTI was created with the goal of identifying struggling students early on in their education and applying early interventions (McKinney, 2016). RTI separates general and special educators in Tiers of the program. Tier 1 includes 80-85% of students who receive

education from general educators (McKinney, 2016). Tier 2 and 3 include 15-20% of students who receive intervention or special education (McKinney, 2016). When students do not make progress in general intervention, they are flagged for evaluation for a disability and recommended for an assessment for special education (Tier 3) (McKinney, 2016). When RTI is not regulated or implemented properly, students can be moved quickly from Tier 1 to Tier 3. Although collaboration between the Tiers is encouraged, general and special educators have different roles within this model. General educators teach to Tier 1 students and have the responsibility of flagging students that may need Tier 2 intervention. Once a student moves into Tier 3, special educators are in charge of assessing and then teaching students in Tier 3.

Co-teaching is a widely known collaborative team-teaching process that challenges the normative separation between general and special educators, and brings students of all tiers into the same classroom. The model of co-teaching also brings general educators and special educators into one classroom. General and special educators work together to plan lessons, teach content and curriculum, and assess student learning (Legutko, 2015). Recent research consisted of interviews of general education teachers about the co-teaching experience, with general educators reporting that co-teaching experiences with special educators was “primarily positive” (Legutko, 2015). In addition, general education students had opportunities to work with special educators and special education students had opportunities to work with general educators (Legutko, 2015). The act of sharing a room to meet the needs of all students challenges the traditional model of separate education programs.

In addition, much research has focused on a “team” approach in education using collaborative teaching (Langovic-Milicvic et al., 2013). A study of Serbian general and special educators found that when working with students with special needs, teamwork is an important

component (Langovic-Milicvic et al., 2013). Results showed that both general and special education teachers currently understand their shared roles, shared identities, and responsibilities as a part of a team, in order to meet the needs of student with disabilities (Langovic-Milicvic et al., 2013). The idea of educators “teaming” up challenges the traditional hierarchy between general and special education programs.

## **Conclusion**

Research about collaboration in education has covered the overall benefits and detailed the challenges of sustaining “effective” collaboration (Ibrahim & Süleyman Yildiz, 2017; Legutko, 2015; Mavropalias & Anastasiou, 2016; Reeves et al., 2017; Wells & Feun, 2013). Most research supports the idea that increasing effective collaboration also improves teaching skills and student outcomes (Khairuddin et al., 2016). Although many teachers report feelings of isolation at work, collaboration is a significant practice that supports teachers and decreases isolation. Some of the challenges of collaboration have to do with limited time, challenges with communication, and inequalities in content area knowledge (Da Fonte & Barton, 2017). There are even more limitations of collaboration between general and special educators. This furthers the problem of special education teacher retention and continues the pattern towards increased burnout symptoms, such as isolation, high work strain, and high stress.

In the field of special education, however, there are rarely opportunities for special education teachers to participate in professional development that involves true collaboration with general education teachers or opportunities to reflect. Instead, collaboration in special education consists mainly of fixing the specific ‘problem’ of the special education student. Most of the time, there is no structure for how this collaboration happens, and with limited time, collaboration can quickly fall to the bottom of the priority list. Following the traditional

hierarchy of separating special and general education programs limits both students and educators.

Research extensively covers the benefits and challenges of professional development for teachers all over the world (Chao et al., 2017; Hill et al., 2017; Timperley, 2011). Professional development is widely regarded as a method to develop teacher skills, strategies, content knowledge, and pedagogical knowledge (Timperley, 2011; Hill et al., 2017). In addition, professional development has the ability to improve teacher job satisfaction (Chao et al., 2017). Yet traditionally, professional development is under the power of, and led by, district administration (Nasser & Romanowski, 2011). Moreover, professional development in special education often focuses solely on elements of implementing an IEP, such as behavior management, writing IEP goals, and holding an IEP meeting. However, these highly specialized opportunities for collaboration can lead to the unintended consequence of increased teacher isolation and, ultimately, higher rates of burnout among special educators.

Few studies have examined how collaboration between special educators and general educators affects the learning of all teachers and all students. Research has emphasized the collaboration between special and general education teachers in order to meet the needs of students with IEPs (Khairuddin et al., 2016; Legutko, 2015; Mavropalias & Anastasiou, 2016). There is a lack of research on the impact of general collaboration between general and special educators. In addition, there is a need for more research on sustainable teacher-led professional development, which includes both special education and general education teachers. Lesson Study is a teacher-led form professional development with the purpose of improving teacher skills such as, planning, reflecting, giving and receiving feedback, improving teacher strategies, and improving student outcomes (Apsari et al., 2017). This research seeks to investigate the use

of Lesson Study as a collaborative, teacher-led professional development opportunity, which includes special educators. Until now, special educators and general educators have not been brought together in Lesson Study for the purpose of understanding its impact on collaboration. The purpose of this research is to better understand how opportunities to collaborate provide and receive support, reflect, and self-improve, affect the work conditions for both special and general educators, and their students.

### **Chapter 3: Methods**

The purpose of this research was to explore the collaborative process of Lesson Study with a selected sample of general and special educator participants. The research took place in an elementary school setting, over half of a school year. The research seeks to answer the question: How does Lesson Study as a form of professional development affect collaboration between general education and special education teachers? In addition, this research aims to answer: How does collaboration between general and special education teachers affect the working conditions of special educators and how do we address the perceived separate roles between general and special educators in United States education?

#### **Description of Research Approach**

The following research is a multi-case study design, in order to provide analysis of four Lesson Studies. This particular study relies on the constructivist view, which begins with the premise that the participants' beliefs and experiences are meaningful and their interactions with one another provide valuable insight into the object of the study (Creswell, 2014). An explanatory sequential mixed methods approach was used, in order to provide a deep understanding of teacher experience and beliefs. First, quantitative data was collected through teacher surveys, exploring teacher beliefs about the experience of each Lesson Study, specifically rating the Lesson Study influence on teacher and student learning. Next, qualitative data was collected through observations and analysis of videotaped pre and post lesson study teacher discussions.

In addition, qualitative semi-structured interviews were conducted at the end of all four case studies, for the purpose of gaining insight into teacher beliefs about professional

development, collaboration, and their beliefs about the benefits and challenges of the Lesson Study research. These interviews also allowed for follow up questions and a way to collect deeper insight into teacher experiences throughout the research.

### **Research Design**

Research was conducted at the researcher's school site during the first semester of the 2017-2018 academic school year. The school was located in the Bay Area of San Francisco in a wealthy suburban neighborhood. The elementary school was one of eight in the district. According to recent data from the district's website during the 2017-2018 school year, the student population in the elementary district included 67% Hispanic, 27% White, 3% Asian, 1% African American, and 2% Other Ethnicity. In addition, 67% of the student population was designated as low income, 51% were English Language Learners and 10% were special education students. This elementary site contrasted the overall district student population and had a high level of parent monetary donations. The school consisted of 413 students in grades kindergarten through fifth grade. The student population differed from the overall district population because only 20% of students at the site were designated as low income and 14% of students were classified as English Language Learners (ELL). The school site does align with the district in terms of special education students, and includes 10% of students that have IEPs. The parent donations contributed to the hiring of extra staff, including the art, computer, PE, and science teachers. In addition, teachers at the site were given extra funds to be used towards classroom resources, curriculum, and technology (e.g. iPads and online learning programs). Teachers at the school site were primarily Caucasian women.

## Participants

Participants in the multi-case study research included two special educators and two general educators, and also included both general and special education students that participated in lessons throughout the research. My school site was chosen as the research site because I had access to teacher and student participants. In this study, I was both a researcher and a participant in the research. After the principal approved the research, I sought out other participants, who were selected through a convenience sample. A group email was generated to all certificated staff to ask for participation in the Lesson Study research, with a preference of a balance between general and special educators noted and explained in the email. A small group of teachers was intentionally selected, in order to allow for schedule coordination and meaningful conversations, and to give each teacher time to individually plan and deliver one lesson each. Teacher participant information is detailed in the table below.

<b>Theresa</b>	<b>Samantha</b>	<b>Gina</b>	<b>Nicole</b>
Resource Specialist 4th and 5th grade	Resource Specialist Kindergarten-Third grade	Third Grade Teacher	Third Grade Teacher
5 years experience	5 years experience	33 years experience	6 years experience
1st Lesson	2nd Lesson	3rd Lesson	4th Lesson

*Table 1 A Table of Participant Teacher Profiles*

The teacher participants were given pseudonyms. All teachers were Caucasian women and all spoke English as their primary language. Both Resource Specialist (RSP) teachers had five years of experience and one general education teacher had six years of experience while, the other

general education teacher had 33 years of experience. All participants had existing relationships with one another. One of the RSP's worked directly with both 3rd grade teachers to meet the needs of students with IEPs on her caseload. As the other RSP participant I had 2 years of previous experience working on the same team as the two third grade teachers. In addition, the RSP teachers worked together for two years, shared a room and instructional aides, created schedules together, and worked closely with one another.

This research consists of four separate case studies. Each case study was comprised of the same Lesson Study design: 1) Pre-lesson discussion, 2) Teaching the lesson, 3) Post-lesson discussion, and 4) Lesson Study teacher survey. Across all case studies, the Lesson Study began with one teacher taking the lead role. All four participant teachers took the lead role one time, throughout the Fall 2017 semester (August-December). Teachers were encouraged to pick a topic or group of students that was challenging or problematic. However, all teachers were given a choice of any subject to teach, and any size of student groups (e.g. small group, whole class) for the lesson. The format of the Lesson Study was as follows: pre-discussion, teaching the lesson, and post-discussion. The pre-discussion took place on a day prior to the lesson. During the pre-discussion, lead teachers were asked to pose the situation and anticipated problems and concerns to the team. Team members took part in the problem-solving process by sharing suggestions, asking questions, and giving feedback. Next, the lead teacher had time to revise or adjust her lesson, and then taught the lesson to students. The post-lesson discussion consisted of first watching 15 minutes of the videotaped lesson and then following up with the discussion. During the post-discussion, it was assumed that lead teachers would discuss how her problem was solved, reflect on the overall process, and arrive at a sense of closure. A 40-minute window

was planned for each pre and post discussion, but they ranged from 15-35 minutes long, depending on each case.

Finally, all participants, with the exception of the researcher, were given a Post Lesson Study Teacher Survey, which focused on questions about collaboration, reflection, student outcomes, teacher outcomes, and other teacher experiences (Appendix A). After all case studies were complete, the researcher interviewed the three participant teachers in a 20-30 minute individual interview, consisting of open and closed ended questions (Appendix B). Questions were directed towards the purpose of understanding teacher backgrounds, the details of their experience, and the meaning made through the experience of the Lesson Studies (Seidman, 2013). Interview questions covered, but were not limited to the following topics: background, experience with professional development, experience with collaboration, and the benefits and challenges of Lesson Study. Clarifying questions were used throughout the interview to gain deeper insight into these topics. A chart showing the Lesson Study format for all four cases and associated data collection is below.

<b>Lesson Study Activity</b>	<b>Data Collection Method</b>				
	<b>Video</b>	<b>Video Transcript</b>	<b>Teacher Survey</b>	<b>Audiotaped Interview</b>	<b>Interview Transcript</b>
Pre-Discussion	X	X			
Teaching the Lesson	X				
Post-Discussion	X	X			
Survey-Each Lesson Study			X		
Interview				X	X

*Table 2 A Table of Lesson Study Data Collection*

## Data Analysis

All data collected was kept confidential and each participant was given a pseudonym. Pre and post discussions, and lesson videos were all recorded for the purpose of analysis. Notes and summaries were taken on each video and then stored electronically. After video notes were completed, videos were transcribed and uploaded, to be coded and analyzed for themes in each case and across all four cases. In addition, survey data was collected via Google Sheets. After all surveys were completed, results were uploaded into an Excel document and stored electronically. Survey data was then analyzed by case and across all four cases for trends. First, text was segmented into distinct ideas and assigned initial codes. Codes were grouped according to categories on a concept map to determine themes. After themes emerged, focused coding was used to find additional examples of evidence or contradictory data.

After all four lesson studies were completed; interviews were voice recorded with each participant. Additionally, brief notes were taken, while conducting the interview, and stored for later review of common codes and themes. Interview recordings were all transcribed and stored electronically for coding and analysis. Written descriptions were also completed for each interview, highlighting themes, codes, and trends. Transcriptions of the interviews were then analyzed for codes and themes and grouped with similar themes in survey and video data. It should be noted that the post-discussion video from Case Study #4 was lost in a technological mishap, but the other sources of data from Case Study # 4 were used and analyzed for emerging themes. Finally, all data was interpreted by theme to answer the research question investigating how Lesson Study as professional development affects collaboration between general education and special education teachers.

## **Validity and Reliability**

Quantitative data was collected through surveys, given at the end of each case study, and qualitative data was collected through observations and coding of videotaped discussion transcripts and audio-taped and transcribed participant interviews. This triangulation of data sources increased the validity of the study because the researcher analyzed data to look for themes that emerged from many sources. First, survey data was coded and the researcher organized the codes into categories to search for emerging themes. Next, the researcher used interview data to check if the emerging themes were consistent with each participant. Additionally, the researcher spent a great amount of time at the site and with the participants, and therefore understood the context in which the research was taking place. The researcher also looked deeper into the context by using interviews to understand how participants experienced and made meaning of the research (Creswell, 2014).

As a researcher, I have experienced both general and special education roles, and thus have experienced collaboration in both roles. In general education, I found collaboration with my third and fourth-grade general education teams to be both productive and supportive. Examples of successful collaboration included unit and weekly planning, analyzing student data, leveling students into different subject classes, writing weekly newsletters, and coordinating events, such as field trips. As I moved into special education, collaboration became far less prevalent, and was only geared towards meeting the needs of special education students. Genuine collaboration with other teachers was something I missed. However, while working with both general and special education teachers during data collection and during data analysis, my goal was to understand their experiences. Therefore, I was keenly aware of my bias but attempted to eliminate my bias when I constructed survey and interview questions. In addition, I made clear to my participants

that the Lesson Study collaboration was also a new process for me and I did not have any preconceived ideas or notions about the experience. This newness was to my advantage, because I made clear to teachers that I was not trying to “sell” them on a process. By recognizing my bias and drawing attention to my positionality to the other participants in the study I worked to increase the validity of the findings.

Chrisler (2015) describes participants and researchers in relationships involving trust and feelings. In addition, Creswell (2014) describes the importance of trust, prolonged time working with participants in the research setting, and the benefits of strong participant relationships. These relationships lead to more valid and accurate findings (Creswell, 2014). An advantage in my position was that I had relationships with all participant teachers, and had knowledge of the context of their job. I worked as a third-grade teacher for two years, and a resource specialist for two years. I understood both positions, and I encouraged the participant teachers to share their honest perspectives. In addition, in order to foster trustworthiness, I purposely started the Lesson Study research project by leading the first lesson, so that participants felt respected and comfortable to work towards creating a safe space to collaborate. As the first step in co-creating the collaborative Lesson Study experience, through leading a lesson, I shared my challenges, problems, student concerns, and difficulties as a teacher. The aim of this research was for participants to co-create and interact with others through listening, supporting, problem solving, and collaborating throughout the research project (Chrisler, 2015). As a researcher and participant, I was equally involved in the discussions and therefore co-constructed the meaning and knowledge that was gained from the discussions and interactions throughout each case study (Creswell, 2014).

In order to ensure reliability, data from four separate case studies were included in the findings. Each case was analyzed for consistencies or exceptions to the overall findings. The findings were analyzed by case, and also across cases to ensure that codes and themes were consistent. Pre and post discussions and lessons were videotaped for each case. Interviews were voice recorded. All videos and interviews were transcribed. To ensure all transcripts were reliable, they were double checked to ensure that no mistakes were made during transcription.

## Chapter 4: Findings

### Introduction

These findings build upon a wide body of research supporting the benefits of collaboration and professional development (Apsari et al., 2017; Ciarocco et al., 2016; Egodawatte et al., 2011; Ibrahim & Süleyman Yildiz, 2017; Leibowitz et al., 2015; Shachar & Shmuelewitz, 1997, Van Schalkwyk Leibowitz et al., 2015). The findings below demonstrate that the collaborative problem-solving process of Lesson Study benefits general education and special education teachers. Through the experience of the Lesson Study between general education and special education teachers, four main themes emerged to explain its impact on collaboration. The first central theme that emerged in the findings is that problem-solving in the collaborative process of Lesson Study never ends, but rather initiates a cyclical pattern of discovery. In this study, participants took turns posing a problem to the Lesson Study team, with the goal of finding a solution. However, video data showed that during the pre and post discussions, problem-solving was continual, ongoing, and although suggestions were given, one solution was not found. The second theme that emerged was that teachers experienced collaboration, through conversations involving requesting constructive feedback, asking questions, giving suggestions, and support. The third theme that emerged is that many aspects of this form of collaboration challenged the Deficit Model in special education. General education and special education participants in this research interacted in a way that challenged the traditional hierarchy of general and special education programs, which benefited not only both sets of teachers, but also all students tangentially. In addition, the research results showed an emphasis on student strengths, rather than what students “lack,” including a focus on the

strengths of students with disabilities. The fourth theme that emerged was that Lesson Study led to a breaking down of common barriers to collaboration and professional development, which include time, choice, and limitations. Participants shared appreciation of specific, carved out time to develop and collaborate. Finally, general and special educators were given the opportunity to collaborate and develop for the purpose of improving their own teaching practices.

### **Cyclical Problem-Solving**

One main theme that emerged through video data analysis is that problem-solving never ends in the Lesson Study process. In this research, participants were asked to each lead one Lesson Study, by bringing a problem or challenge to the team, in order to collaboratively find solutions to the problem. Gina's lesson is an example of what was expected by researchers: the problem-solution discussion, in which teachers observe a lesson, give feedback/critique to the lead teacher, and the Lesson Study comes to a close. Gina shared more instructional success and student success than other team members. Gina's identified problem was that students in her ELD group have different reading levels and choosing one leveled book for the group is challenging because it can be too easy for some students and too hard for others. During the pre-discussion, team members gave suggestions about using differentiated leveled books, doing a teacher read aloud, and doing individual readings. After teaching the lesson, Gina began the post-discussion by sharing a shortcoming, when she stated, "Well I didn't like that I had to correct my class," when they were being so loud that Gina had to stop her lesson to quiet down her class. However, throughout the rest of the post-discussion, she shared mostly student success. Gina's students were asked to summarize a text using only three to five words. Gina shared the success:

I was happy with the individual words they came up with because they were all different. So I really liked that and then they had to negotiate with each other and they shared what their word was with their partner...

Although Gina's problem appeared to be solved, Theresa questioned this by asking, "Were there any incorrect sentences or phrases that you had to correct at all?" Gina confirmed the solution and success, by answering, "No." Unlike other participants, Gina focused on her students' success and the problem appeared to be "solved." However, this did not stop team members from thinking about next steps for Gina and they continued to give suggestions. Nicole suggested:

I was thinking you know that one F and P [Fountas & Pinnell] book with the birds. Oh I don't remember what level it is though. It might be too high. But it would be fun to compare and contrast it with that story.

Even though Gina's lesson was over, the team continued to follow the problem-solving cycle and brainstormed new ideas, even after the problem was solved.

Even though a problem-solution discussion was expected, all other evidence showed that a cyclical problem-solving discussion emerged, in which the problem was never "solved," and new problems arose and the cycle continued. The researcher assumed that the majority of requesting constructive feedback and support, sharing suggestions, and sharing uncertainty and worry would occur during the pre-discussions. In the same way, it was assumed that sharing success, sharing support, and giving compliments would occur during the post-discussions, and the problem-solving would end with a clear solution. However, video data showed that instead of a linear process of posing the problem and solving the problem, problem-solving showed a cyclical pattern. In the post-discussion, teachers shared their successes, but also shared more problems, and problem-solving continued.

Theresa's lesson showed an example of a cyclical problem-solving discussion. Her problem was that her reading group included a wide range of students, with both strong and weak decoding and comprehension abilities. During her pre-discussion, team members gave suggestions to use teaching strategies that could solve the problem of decoding, such as choral reading, partner reading, and teacher read aloud. Theresa took her team member's suggestions and decided to do a teacher read aloud. After teaching the lesson, video data of the post-discussion showed that Theresa's problem was not solved. She still shared uncertainty about using the teacher read aloud and shared uncertainty with the reading comprehension component of the lesson. Theresa started the post-discussion by sharing weaknesses in her lesson rather than celebrating a solution. Theresa shared:

So the comprehension piece is the piece that I thought would kind of be a struggle. And I think it's just knowing that some are more ready to do more on their own and just being slowed down by that [reading page by page]...

Team members continued to ask questions and gave more suggestions, such as, stopping frequently to ask questions to the reading group, using a story map to assess each child's comprehension skills, and working on the story map slowly and in a guided manner. Samantha then suggested a solution to the "new" problem:

I would do a combination of all of it too, sometimes do teacher read aloud, sometimes do a partner read, sometimes have them do, like if it was shorter passage, have them do an individual read and then contribute whatever your target comprehension focus is.

This cycle continued and the team discussed what Theresa's next steps could be, even though this particular lesson was "over" and the group had agreed that they would be moving on to the

next teacher leader. There was no clear solution to Theresa's problem, and the problem-solving continued.

Samantha's lesson also showed the problem-solving cycle. She shared a problem with implementing a reading program with fidelity, given time constraints and differences in student skills in decoding, comprehension, and handwriting. In the pre-discussion, team members gave suggestions of choral reading, using a timer, and using different websites to find short reading passages. After teaching the lesson, video data showed that Samantha continued to question her instruction and her problem was not solved. Like Theresa, Samantha opened the post-discussion by sharing shortcomings and uncertainty, when she remarked, "So my big things, as you saw I need to work on is starting to pick up their pace of being more automatic." She also continued to share difficulties about her students' efficiency in using the tracing tool. In response, team members continued to share suggestions. Theresa, for example, suggested, "But maybe you can say, your first 10 words, you are tracing and reading," to support Samantha's desire to implement tracing in her future lessons. At the end of Samantha's post-discussion she expressed a desire and need to continue problem-solving, even after the lesson ended. Samantha said, "...I'm changing what I'm doing quite a bit. I haven't found quite what I want." Just like in Theresa's case, the problem-solving continued and there was no clear end.

### **Experiencing Collaboration**

In a field of professional isolation where teachers are seldom recognized for their efforts, the Lesson Study provided opportunities to give and receive support from general education and special education peers.

**Requesting support and constructive feedback.** Throughout the Lesson Study process the theme of requesting support and constructive feedback emerged in three distinct ways:

sharing inadequacies in their own teaching, asking questions to the team, and stating uncertainties and worries. Throughout the process, teachers requested support and feedback by stating their own perceived shortcomings in instruction, such as teaching strategies, skills, or resources. When posing the problem, lead teachers often spoke of the problem as their responsibility, rather than sharing about a student or student group that needs “fixing.” This is illustrated when Nicole discussed her uncertainty about her lesson plan, but also shared a desire to grow as a teacher. Nicole shared:

I had some ideas because I don't want to just feed it to them. I feel like I do a lot of that.

But letting them really try it on their own. And that's the goal for me as a teacher 'you go find that evidence.'

The Lesson Study research included many moments like this, when general education and special education teachers shared a desire to be “better at” or “work on” something that they felt needed to be improved about their own skills as a teacher.

Sharing shortcomings with the team was a way that teachers requested support or feedback, which was especially salient during pre-discussions when “posing the problem.” After the pre-discussion, teachers had time to adjust their lesson, by adding in suggestions gained from the pre-discussion. However, after making these adjustments, and teaching the lesson, teachers continued to request more support/feedback during post-discussions, showing that the cycle of problem-solving continues. Another example of this is when Samantha, a special education teacher, was discussing how she wanted to implement ongoing repetition and review within her reading lesson. During the pre-discussion she said:

...I just realized I'm doing it [repetition and review], but not enough. So I really want to focus on my own teaching with making sure that I am doing it all the time, and it really becoming ingrained in me, so that I'm just doing it naturally.

Samantha shared a desire to improve her shortcomings in teaching reading fluency to her students. Then, after teaching her lesson, Samantha re-evaluated this area of weakness in the post-discussion, "And then like that goes back to the tracing thing though, is the other thing I really need to pick up is my tracing." Samantha continued to ask for support and feedback with her team, throughout the pre and post discussions, by discussing areas in her teaching skills and strategies that she identified as needing improvement, such as fluency, automaticity, and reinforcement of student behavior.

A second way in which teachers requested support and feedback throughout the Lesson Study was by asking questions to the team. When posing the problem to the team, teachers reached out to others by asking questions about teaching strategies, student groupings, and materials. For example, Theresa, a special educator, posed questions to the team about the reading comprehension portion of her lesson. Theresa asked:

Then I am thinking 'Ok we are going to come back to the story next time and what am I going to do? Am I going to let them go page by page again? Am I going to let them partner read and then I'm popping over to them?' I just want to give them a little more independence in practicing their reading, but just trying to figure out a way that's effective.

Although Theresa already taught her lesson, she continued to request feedback and support about the next steps in teaching reading comprehension to her students. Theresa's questions showed her desire to find solutions to how to support her students beyond this specific lesson. Another

example of requesting feedback was when Nicole solicited advice about how to structure her summarizing lesson. At this point in the discussion, team members agreed that Nicole should give her kids Post-its to use to sequence texts into parts. Nicole wanted more clarification on how to do this when she asked the team, “Should I give them a certain number [of Post-its]?” Theresa responded by suggesting, “Yeah you could [say]...’when you agree to put a Post-it up, make sure it’s a really big event.” Nicole continued the conversation by asking, “Yeah, maybe do a vote or something?” This back and forth conversation was an example of the dialogue of requesting feedback and receiving support, which team members experienced throughout the research. This dialogue occurred between all team members, regardless of position. General education teachers leaned on both general education and special education teachers, and vice versa, by requesting feedback and support. Participants asked questions about what strategies to use with their students and what materials to use, in order to improve their own teaching practices.

**Reflection.** Throughout the pre and post discussions, teachers reflected on their teaching. Teachers looked closely at their effectiveness and shared uncertainty and worry about the success of their lesson, about their abilities as a teacher, and about their students’ success. Theresa reflected on the tools used for read aloud and how each tool would affect her students’ success. She was worried that if she read the text aloud, her students would not make enough growth in reading:

But I think what I am worried about though is missing that practice of them not reading. I think that’s the part that I am having a hard time with. Because I feel like I am going to get to the story map and I am not worried that they didn’t understand it, I guess, I am just worried that they are not doing the reading, while I am.

Samantha reflected on her lesson plan and how it affects student growth. She relayed uncertainty about her students' ability to read with fluency and automaticity. She stated, "They have been practicing. ...I'm hoping that if I change how I'm delivering this [instruction], right here, maybe it [student's fluency] will change." Teachers reflect in order to understand how their skills, strategies, adjustments, and use of resources can make an impact on student academic and behavioral growth. Teachers hold this responsibility on their shoulders, which can be burdensome and cause stress. Teachers request feedback and support in order to gain solutions, support, and knowledge from teammates.

**Receiving support.** One of the benefits of requesting feedback/support throughout the Lesson Study is that participants received support from the team. Team members shared feedback and support by sharing suggestions, giving specific encouragement and appreciation, and also by giving simple compliments to others. As Lesson Study lead teachers posed problems to the group, suggestions were typically the first type of support offered to the lead teacher. Both general education and special education teachers shared suggestions about teaching strategies, student groupings, and materials, in order to attempt to solve the problem. For example, when Theresa was unsure about what strategy to use with her reading group, Samantha suggested,

"Still doing a teacher read, but just since they want to participate so much, just asking them a question...about what just happened on that page and that might just keep them engaged, so that they can contribute."

Although Theresa was worried about reading the text aloud to her students, Samantha suggested that she do so by stopping on each page to ask her students comprehension questions, because comprehension was the main goal of this part of the lesson. Samantha suggestion offered Theresa a way to better engage her students. Another example of offering a suggestion occurred

after Samantha shared her problem of asking her students to read from the same list of words, and observing that they all read the same list at different paces. Gina, a general educator, suggested, “You know what you could do. You should do it on an iPad... and blow it up.” Gina’s suggestion to enlarge the print for students supported Samantha’s desire to solve her problem of her students losing track of their reading. When general educators and special educators gave suggestions to one another about their teaching practice, they not only support one another, but created opportunities to improve. They were reinforcing good teaching practices, while also learning them.

Another form of support that occurred throughout the research was specific appreciation. Teachers vocalized specific appreciation about teaching skills and strategies within and beyond the lesson. Throughout the Lesson Study, general education teachers shared appreciation to special education teachers and vice versa. For example, when Samantha, a special educator, was discussing her work with her students on reading fluency, Gina, a general educator, responded, “... because you spend so much time going over the same things to establish those behaviors, and I really appreciate you.” Gina has students with IEPs in her class that go to see Samantha for Specialized Academic Instruction, and Gina shared her appreciation, not only for Samantha’s lesson, but also for supporting their shared students. In another example, Samantha appreciated Gina’s incorporation of reading and writing in her ELD lessons, when she stated, “That’s good practice. And I like the reading and writing part together. That’s really important.” This comment provided feedback about Gina’s lesson, but also about her practices as a teacher. Gina also received appreciation for her writing strategies in her ELD group, when Nicole said, “Thank you for that, for that structure.” Nicole had students in her class that received ELD support from Gina, and she was not only expressing positive feedback about Gina’s lesson, but also shared her

appreciation to Gina for supporting their shared students. In addition, when Gina was speaking about her students growth in speaking and listening skills, Nicole responded with a specific appreciation when she said, “So I like that you always incorporate that a ton [of Speaking and Listening] in your lessons and give them that voice, because I feel like they don’t always feel comfortable.” Nicole valued Gina’s teaching skills and her ability to encourage students that typically do not participate as much, to speak out and share their opinions.

Furthermore, support came in the form of short, simple praise and compliments during pre and post discussions in order to provide encouragement (e.g. “That’s great”) to one another. Gina complimented Samantha’s dedication to improving her students reading skills when she said, “It’s your little baby. Good job!” When Gina shared her students’ success with her own ELD lesson, Samantha returned the encouragement when she said, “That’s great,” and “That’s fantastic.” In addition, when Nicole shared about her student’s reading growth by sharing, “And the other one who was on J, is now at M. And he’s in the 700s now,” Theresa replied with encouragement, “Oh my god! That’s huge!” Although these simple compliments don’t appear to be significant, they are meaningful because the hard work of the teachers to improve their practice and their students learning was publicly validated by their peers.

**Improving all teachers.** One of the ways that all teachers were able to improve was through the process of asking questions to other members. This questioning improved lead teachers by challenging them to think critically, defend their lesson plans, and give reasoning for their plans. General educators asked questions to other general educators as well as to special educators, and vice versa.

For example, when Theresa was having difficulty with her reading comprehension section of her lesson, Nicole questioned her by asking, “And how often are you guys reading the

same book? Is it a week a book? Or is it a day?” This question challenged Theresa to think about her pacing, how many times she would read the story with her students, and when to use a graphic organizer with the students. When Samantha shared multiple shortcomings that she wanted to improve about her lesson, such as tracing, fluency, and handwriting, Theresa asked a question that challenged her to refocus. Theresa asked, “What’s your biggest focus if you had to choose one that you really want to focus on?” Samantha answered, “Fluency,” and the discussion was brought back to how she could improve her students reading fluency within the lesson. Questions challenged teachers to think about the goals and purpose within their lessons. For instance, when Nicole was asking the team members questions about how to teach summarizing to her students, Theresa asked, “And are you kind of thinking you want to assess how they are doing in summary?” After more discussion, Nicole decided that she was going to use her lesson to teach and model summarizing, rather than assess individual skills. Questions also opened up the conversation of improving overall teaching skills and practices. For example, after Gina shared her success with her ELD summarizing lesson, Samantha asked, “How else are you doing the speaking part of ELD?” This led the discussion off of the topic of the actual lesson, but into a deeper conversation about how to meet the needs of English Language Learners. This question also challenged Gina to explain her Speaking and Listening teaching practices.

Finally, teacher survey data revealed that teachers felt that collaboration was mutually beneficial, between themselves and their Lesson Study colleagues. Results from Post-Lesson Study Teacher Survey (Appendix A) showed that 91.7% of teachers reported that collaboration was mutually beneficial and 8.3% reported it was only “a little.” The design of the Lesson Study was as follows: teachers each led one lesson and also took part, as a team member, in three other lessons. Although teachers only led one lesson, in which the collaborative focus was on them and

their lesson, participants reported that being on the Lesson Study team was a beneficial collaborative experience. The survey results are illustrated on the figure below.

The collaboration between my Lesson Study colleagues and myself was mutually beneficial.

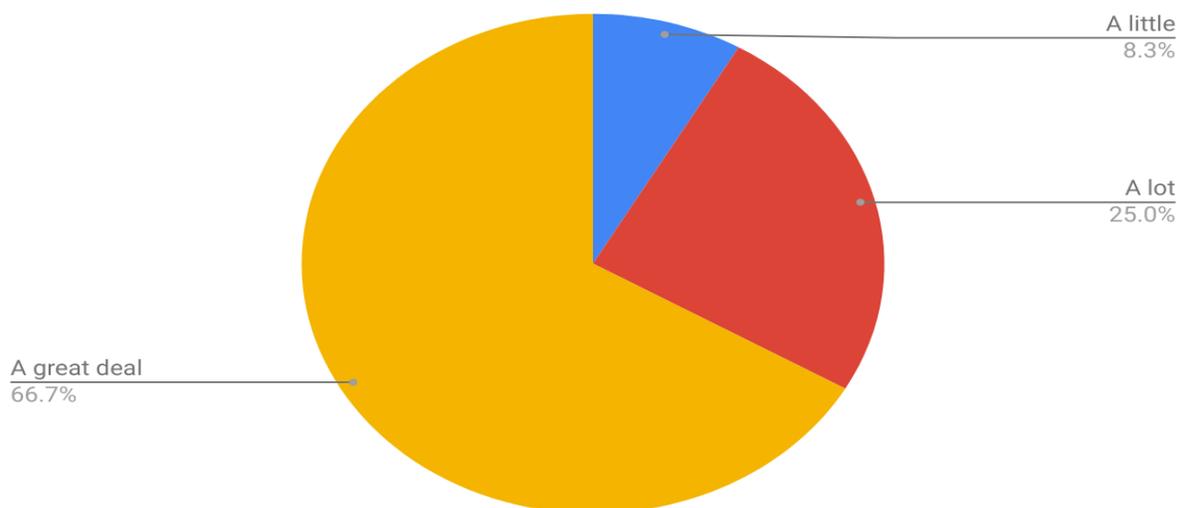


Figure 1 Survey result: The collaboration between my Lesson Study colleagues and myself was mutually beneficial

### **Breaking Down the Hierarchy Between General and Special Education Programs**

Traditionally, the hierarchy between general and special education separates both students and teachers. General educators are content and curriculum experts and “whole class” instructors (Langovic-Milicvic et al., 2013). Special educators hold specialized knowledge, are assessment and adaptation experts, and are “small group” instructors (Langovic-Milicvic et al., 2013). This hierarchy, however, typically restricts all educators from opportunities to improve their teaching practice. This research challenged this hierarchy because throughout the research special educators shared information with general educators, and general educators did the same with special educators, showing the separation of roles was blurred. All teachers were treated as “content and curriculum experts,” with the knowledge to give feedback about teaching strategies,

resources and materials, and ideas on how to meet the needs of all learners. Throughout the Lesson Study research, the theme of breaking down the traditional hierarchy emerged.

**Challenging the Deficit Model in special education.** The collaborative process between general and special educators challenged the Deficit Model approach to special education. Traditionally, students with disabilities are identified by their deficits, in need of “fixing.” In addition, special education students are identified as those with deficits and separated from their presumably more capable general education peers. However, during pre and post discussions of special education and general education students, teachers focused on changing their *own* lesson plan, teaching strategies, and/or their student groupings, in order to give *all* learners access to their lessons: in these discussions, the needs of both students in the special education as well as in the general education program were considered.

The Lesson Study also challenged the Deficit Model in special education because all students were included and considered in the process: English Language Learners, native English speakers, students with disabilities, and general education students performing at and below grade level. A theme consistent throughout all four lessons was that teachers focused on how they could adapt lessons to meet the needs of all students, rather than focusing on or discussing student deficits or the “lack of” specific skills or abilities. This was illustrated when Theresa, a special educator, was explaining her problem with implementing her reading lesson, because of the wide variety of student strengths and weaknesses in the group. Some students in her group had decoding strengths and others had comprehension strengths, but because of staffing, all students were placed in the same group. Samantha suggested, “I’ve done a whole group read, where I read it aloud sometimes, sometimes we do a choral read initially, and I kind of break down the vocabulary.” She listed multiple strategies that Theresa could use to support all

students in the group, rather than focusing only on some of the students with decoding and comprehension deficits. When Theresa was uncertain about how to support her students' abilities to participate in the reading comprehension portion of the lesson, Nicole offered:

...I feel like you could almost scaffold it, before you get to the actual story map, if you have a week to do it. Start with just the characters, and they did a good job with that, and ok the next time, we have the characters, we are going to pause and talk about the setting, and then the next time, ok we have read it, here's the beginning, what happened so far. Pause there. Middle, end, and then the last day, you are going to put this all on the story map.

Nicole's suggestion to scaffold the lesson into smaller steps provides support to all students. Another example of this is when Nicole discussed her uncertainty with how to support her students, some reading above and some reading below grade level; Samantha suggested a strategy to support all students. Samantha stated:

I know you've said you've already done a summarizing lesson, but have you ever done the exact same thing that you are asking them to do but you kind of do it, kind of like you're thinking aloud? Like your thought process about how you're picking out things...

Samantha suggested that she should model the lesson to all students, so that everyone would be able to access the skill of summarizing.

Another way that the Lesson Study challenged the Deficit Model occurred when teachers offered suggestions on how to meet student needs. Throughout all four lessons, teachers offered suggestions about different materials and resources to use that would allow all students to access the content. Special education teachers gave suggestions to general education teachers, and vice versa. When Samantha was having difficulty finding reading passages to use for reading

comprehension, Theresa suggested, “You should try Readworks.com... Because they do have ones, especially in the younger grades that are just one page and they are literary and non-fiction.” The focus on finding resources that allow all students to access the content challenges the Deficit Model. Another example occurred when Nicole was discussing the most effective strategy to use during her summarizing lesson. Theresa suggested a resource that could be used with all students. Theresa asked, “You know who had a really good thing, is the WRITE Institute. Do you remember that summary?” Discussion continued, and Nicole debated using this resource to support her reading group. In instances like these, which occurred throughout the research process, teachers discussed the adaptation of materials to allow all students to access the lesson, rather than focusing on how to “fix” the students with deficits in reading and writing.

As teachers met for pre and post discussions, they focused on student strengths, including students with and without disabilities. These discussions challenge the Deficit Model in special education, because instead of discussing students as “problems” teachers highlighted strengths over weaknesses. When Samantha brought up a specific student to the team, she explained that she needed help finding a good fit book for the group, especially for a specific student that was reading at a lower level than his group. Instead of highlighting how to “fix” his comprehension struggles, Samantha said, “So I’m trying to find a way to make it effective because he actually does have really good comprehension.” She did not harp on the fact that he was lowest reader, but pointed out her own responsibility in bringing out his strengths. Nicole highlighted the growth of one her English Language Learner students, who attended Gina’s class for language support. Nicole explained, “Because in the beginning of the year, when I had him in writing he didn’t know where to start...But the next time I used his as an example. Because he had [his] format perfectly and this was independent.” Nicole highlighted this student’s potential to learn

writing techniques, rather than dwell on his struggle with writing in the beginning of the year. This was also illustrated when Nicole described one quiet, shy student in her lower reading group. Nicole highlighted the student's interest in being the book club "leader." Nicole shared with the team, "If you met her, she's super quiet, but [a] stronger reader. Yeah and she's building that confidence." She emphasized her student's ability to move past her quiet nature and grow as a student and reader. In addition, when Theresa discussed her student's difficulty decoding and spelling words, the team responded by highlighting all of his strengths. First, Gina shared, "That is one area, that I think if you read aloud, he has a bigger arsenal of information behind him. Even though he can't read it himself with any fluency, he knows what's going on, he has good comprehension." Next, Samantha added, "Cause he's brilliant I mean, his math too." The discussion, which started with a student's struggle, turned in a different direction, and became a celebration of the student's strengths. These examples show how the Lesson Study challenges the Deficit Model as teachers described and highlighted the strengths of general education students, English Language Learners, and students with disabilities, rather than discussing their weaknesses or attempting to "fix" deficits.

### **Breaking Down Barriers to Collaboration and Professional Development**

Collaboration and professional development are methods to improve teaching practices and, in turn, student learning. However, there are many barriers to collaboration and professional development. Some of these include time, deadlines, lack of communication, and high workloads. In this research, the theme of breaking down the barriers to collaboration and professional development emerged, especially through the results of teacher surveys and teacher interviews.

**Improving practice through collaboration.** The Lesson Study worked as a form of collaborative professional development to improve best teaching practices. After the Lesson Studies were completed, Nicole explained:

It was really good because you just learn new ideas too and support and again that's just so missing in our professional development. I don't know why that's not [happening] every week. You're with a group the whole year and you bounce ideas and it's a support system too; you are assigned to it.

Nicole shared how the Lesson Study filled in gaps that are missing in her own professional development and also shared a desire to continue similar practices in the future.

She went further to describe how the Lesson Study affected her teaching:

.... but it made me push myself even more. How am I going to teach summarizing? I can't just throw it at them, what can I do? It made me really dig deeper and made me think, I gotta do this with all of my lessons.

Samantha, a special educator, shared similar sentiments when she said, "But it [Lesson Study] was actually talking about improving your practice, which is a little bit different than other collaboration." Samantha shared how the Lesson Study collaboration differed from other forms for general education and special education teacher collaboration, which usually focuses on meeting the needs of students with IEPs. Throughout the Lesson Study, the pre-and post-discussions allowed teachers to reflect on their practice. Gina illustrated this when she stated what she liked most about the Lesson Study:

The reflective discussion because I think that makes all of the difference in what the kids get. But I think it helps give solid feedback and it helps us make our decision about 'well are we going to do this or are we not going to do this.'

This reflective practice allowed teachers to think about their effectiveness in meeting the needs of all students and also provoked change and adaptation of lessons, to improve overall teaching practices.

Survey results also supported this theme. Three teachers, not including the researcher, took a Post-Lesson Study Teacher Survey (Appendix A) after each of the four lessons, totaling 9 responses per question. Over all four lessons, with three participants responding, 75% of responses showed that teachers learned “a great deal,” or “a lot,” about their own teaching from taking part in each lesson during the Lesson Study. In addition, participants shared that the Lesson Study improved their overall practice, 75% reported “a great deal” or “a lot” and 25% reported “a little.” Teachers also reported that the Lesson Study improved reflective skills. When asked about the Lesson Study’s effect on reflection, 91.7% reported that they reflected on their own practice “a great deal” or “a lot” and 8.3% reported they only reflected “a little.” These responses illustrate how the Lesson Study works as a collaborative form of professional development with opportunities to reflect, improve teaching practices, and benefit from collaborating with others. The following graphs show the survey results.

I learned a lot about my own teaching by participating in this Lesson Study.

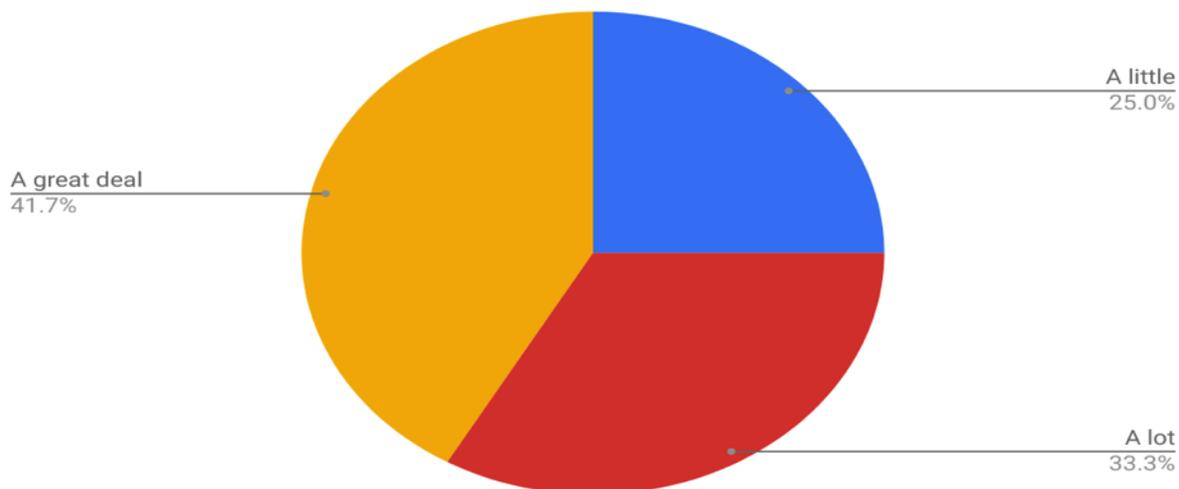


Figure 2 Survey result: I learned a lot about my own teaching by participating in this Lesson Study

I reflected on my own practice due to participating in the Lesson Study Program.

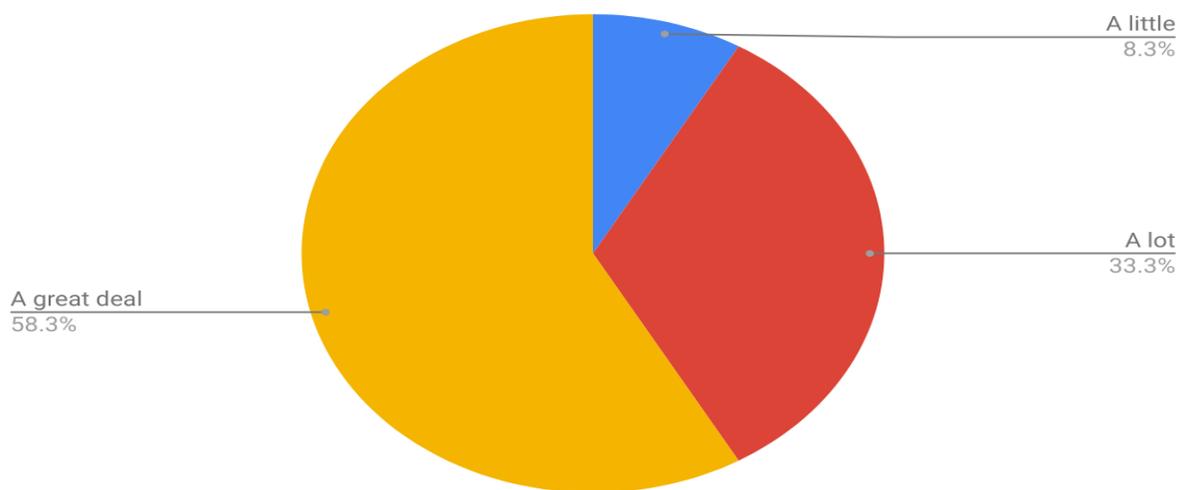


Figure 3 Survey result: I reflected on my own practice due to participating in the Lesson Study Program

Participating in this Lesson Study improved my own practice.

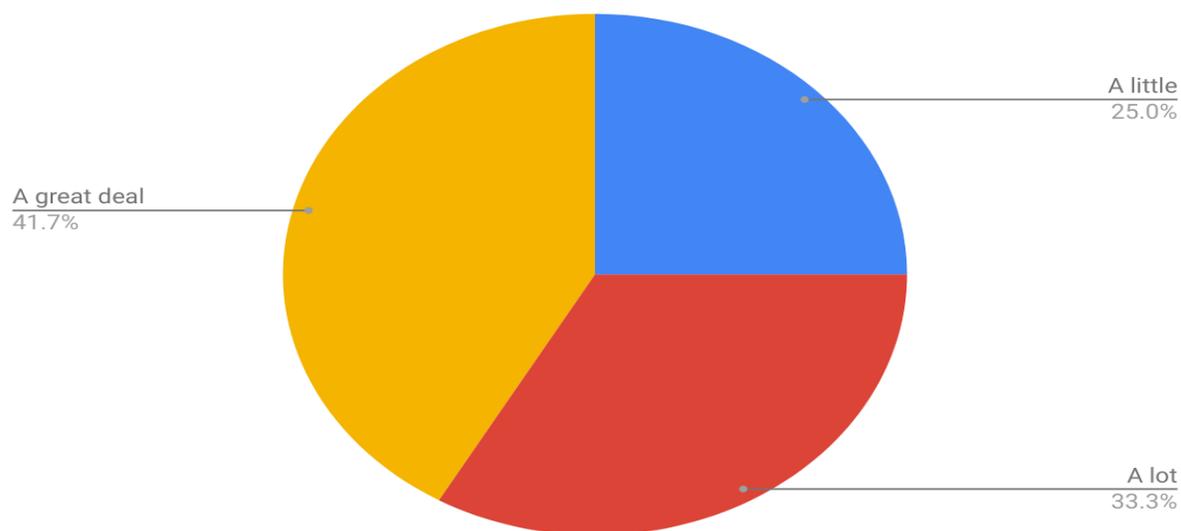


Figure 4 Survey result: Participating in this Lesson Study improved my practice

**Breaking down barriers** The Lesson Study breaks down barriers to professional development, such as limited time, lack of trust, lack of teacher choice and power, and professional development that teachers find irrelevant to their needs. Nicole described some experiences with district professional development. First, she explained the district’s need for meaningful professional development. She explained her frustration with professional development when she said, “You’re exhausted at the end of the day. You don’t want to spend more time doing busy work.” By contrast, when asked about her experience with the Lesson Study, she described it as a meaningful form of professional development when she said, “Why don’t we do that in our PD? Here’s a video of me teaching, how can we help, or here’s Gina doing ELD and look at how amazing she is. Let’s look at that.” Gina described similar frustrations with district professional development. Gina shared, “One year they wanted us to make a poster, and nobody wanted to take their posters home, it was just kind of taking up time.” Gina described her appreciation of the structure of the Lesson Study when she stated:

I loved that we shared our plan and then reviewed it afterwards. I loved that every time we did it, we recognized that there were great things that happened, and we recognized that there were things we needed to improve on.

The Lesson Study provided a meaningful structure for special education and general education teachers to develop professionally.

Responses from teachers also showed evidence of breaking barriers to collaboration. First, time was mutually negotiated and coordinated by email or in person. Discussions took place during lunch or after school, within the contracted hours of the school day. Teachers have limited time and high workloads. Special education teachers often attempt to collaborate with general education teachers in passing, or wherever it can fit in. When asked about the benefit of the Lesson Study, Samantha shared that she enjoyed, “Hearing about what the gen ed [general education] teachers were doing,” and “Yeah and actually having a scheduled time to do it.” Gina shared some frustration with scheduling time to meet together, when she said, “I mean it was hard to find a good time, but once we all got there it was lovely.” Similarly, Nicole shared her worry about time, before the Lesson Study started. When asked if she still thought the time was a barrier, she answered, “No that was just more of my anxiety. I got over that. I was just worried that this was going to be like papers or something, like ‘Oh God I don’t have any more time to give.’” Nicole’s preconceived worry about the Lesson Study as another “time waster” was alleviated as she experienced the Lesson Study. She reported the desire for more opportunities like this, to develop professionally. The Lesson Study provided a structured time for teachers to collaborate during the school day, as well as an opportunity to collaborate with others about what was relevant and pertinent in their classrooms. Teachers discussed the benefits of working with the team. When asked what Nicole liked best about the program, she said, “I just like learning

from other people. It's nice. I would just do a longer study and do like the before and after with different groups." She expressed a desire to continue this collaboration, even after the Lesson Study ended. In addition, when Samantha was asked about the benefits of participating in the research, she stated:

I would say just having the conversation, the back and forth dialogue was good. I would say it's good to be like the team we had. It's good to have people you feel like you can be open and honest with. And not feel like judged or anything like that.

Samantha explained her appreciation of the collaborative team. The Lesson Study provided opportunities for discourse between general education and special education teachers.

## **Conclusion**

This research seeks to answer the question: How does Lesson Study as a form of professional development affect collaboration between general education and special education teachers? The findings from this research highlight several ways that participating in Lesson Study affects teacher collaboration. First, the cyclical problem-solving process of Lesson Study allowed teachers to reflect and continually improve. The research also provided opportunities for general education and special education teachers to request support and feedback, receive support, and improve their own teaching practices. In addition, teachers challenged the traditional roles of special education and general education teachers, by working together to meet the needs of all students. Results showed that teachers worked together to challenge the Deficit Model approach in special education, by adapting lessons, adjusting teaching strategies, and finding alternate materials to meet the needs of all learners, rather than focusing on "fixing" student deficits. Finally, the Lesson Study broke down barriers to collaboration and professional

development, by providing scheduled times and opportunities to collaborate and develop in a meaningful way.

## Chapter 5: Discussion

Lesson Study between general education and special education teachers is a form of collaborative professional development that benefits teachers. This research supports other studies that illustrate the benefits of professional development and collaboration. The Lesson Study is an example of teacher-led professional development, which allows teachers to have choice and take more responsibility of their learning, rather than digesting information in a top-down manner (Nasser & Romanowski, 2011). In this study, participants led their own Lesson Study, by choosing a topic and student groupings, and by leading the pre-discussion, teaching the lesson, and leading the post-discussion. In addition, this study supports current research, which highlights the benefits of collaboration and professional development for teachers, such as the ability to improve teaching skills and strategies, improve content knowledge, and improve the quality of teaching practices (Apsari et al., 2017; Timperley, 2011). Participants reported that throughout the Lesson Study, they learned more about their own teaching and improved their practice.

Moreover, the research results align with other studies on the benefits of collaborative problem-solving. Through collaboration, teachers are able to problem-solve, gain knowledge, ask for direct feedback, and improve reflection skills (Ibrahim & Süleyman Yildiz, 2017; Schneider & Kipp, 2015). At the end of the research, participants reported that they reflected on their teaching practices and that the collaboration throughout the study was mutually beneficial between themselves and their colleagues. The findings reinforce the advantages of collaborating, such as feeling supported and gaining meaningful feedback (Chong & Kong, 2012). The Lesson Study research provided opportunities for teachers to request support and constructive feedback, and in turn receive support, feedback, and encouragement. These opportunities increase feelings

of support and decrease feelings of isolation and depersonalization, which helps to stop the cycle towards high burnout and high teacher turnover (Faskhodi & Siyyari, 2018).

### **Implications for the Literature**

Although research results align with much of the studies on professional development, collaboration, and Lesson Study, many differences also emerged. This research provides a unique opportunity for general education and special education teachers to collaborate in a meaningful way. Besides co-teaching, most research on collaboration between general education and special education is narrow and specifically geared towards meeting the needs of special education students (Da Fonte & Barton-Arwood, 2017; Khairuddin et al., 2016). In this research special educators were included in Lesson Study, a collaborative experience, focused on improving their own teaching skills and strategies and improving reflective practices, rather than collaborating to meet the goals of students with IEPs in the general education classroom. The Lesson Study provided a model to break down the hierarchy between general education teachers and special education teachers because all teachers were treated and respected equally in their understanding of content and curriculum, in their ability to give constructive feedback, and their ability to meet the needs of all learners. In this study, the lines between special education and general education were blurred, with the purpose of improving all teachers and all students. Some examples of this were: special educators were given an opportunity to make an impact on general education students, and general educators gave special educators constructive feedback on their reading lessons.

The Lesson Study Model structure lent itself to inclusivity of all teachers and all students. In addition, it brought about some surprising results in the way teachers communicated about all learners. Throughout the study, teachers challenged the Deficit Model in special education, by

taking on the responsibility of adjusting lesson plans, finding appropriate materials, and choosing teaching strategies that allowed all students to access materials, rather than holding discussions about students “deficits.” In addition, when speaking about special education students, both general education and special education teachers overwhelmingly brought up student strengths, rather than discussing how to “fix” student behaviors or learning deficits.

### **Implications for Practice and Policy**

The Lesson Study research widens the understanding of how general education and special education teachers can effectively and meaningfully collaborate. Like co-teaching, Lesson Study between general education and special education teachers can be included in the conversation of how to best meet the needs of both general education and special education students. As education moves in the direction of inclusion, Lesson Study can serve as a model to break down the separation of general education and special education teachers and programs. This is especially important to furthering the inclusion of special education students, because in this model, they are treated as equally deserving learners, because general and special educators work to meet their needs and improve their access to education. The Lesson Study also serves as a tool to challenge the Deficit Model in special education, because teachers worked together to highlight student strengths, and adjusted their lessons, strategies, and materials to meet the needs of all learners.

Based on the results of this study, administrative and district support should increase the availability of Lesson Study to all schools. If teachers are given choice in their professional development, Lesson Study could be used to improve teaching practices for all teachers. Special educators often feel more isolated and desire more collaboration, and if they are included in Lesson Study, they have the opportunity to feel supported and take part in meaningful

collaboration (Gersten et al., 2001). The Lesson Study model allows special educators to experience professional development opportunities specifically geared towards improving their teaching. In the move towards inclusion, special educators need to be included in the same professional development opportunities as general education teachers. Lesson Study can be used to raise the teaching and content knowledge expectations of special education teachers, and bridge the gap between the traditionally separated teaching roles.

This research is also significant for pre-service teachers. Although the researcher expected a problem-solution pattern to emerge, findings showed that a problem-solving cycle occurred. This cyclical rather than linear pattern is meaningful because general and education teachers continually developed new ideas, tried to solve new problems, and gave more suggestions throughout the process. There was no point in the research that the participants were “finished.” Lesson Study is an essential experience for pre-service teachers. It is important to understand that teaching is a cyclical process, and not a field in which definitive answers are easily found.

### **Limitations of the Study**

The results of this study are based on one elementary school site, but including multiple sites, and also including both middle and high schools would increase the value of the research. This would be important to understand how Lesson Study collaboration affects single-subject areas. For example, teachers may want to work with their same subject area peers (e.g. science, social studies, English), or may want to work in a multi-disciplinary group, and collaboration maybe impacted differently.

The research included two resource specialists and two third grade teachers, but the involvement of more grade levels would also increase the merit of the research. The impact of

collaboration may change based on what grade levels are included in the Lesson Study. For example, teachers may work in same-grade level groups, or work in multi-grade level groups. More diversity in grade levels may affect its impact on collaboration. In addition, although the research included students with varying race, ethnicity, language skills, ages, and academic levels, the participant teacher diversity was limited. All teachers were white, middle class females, all with similar teaching experience, with the exception of one teacher with 33 years of experience. These participant teachers all had close work relationships, of at least 4 years or more, working together. This may have impacted the ease of asking for and receiving feedback from one another, and additional research would need to be done with teachers of a variety of experience and years of working relationships, to discover if these results would generalize to other research sites.

The research site may have been a unique setting for the Lesson Study model, because on the continuum of inclusion, this school-site is further along in the move towards full inclusion than other schools in the district. The site offers a Learning Center Model, which includes students with mild to moderate disabilities in the general education curriculum. There are two resource specialists at this site, while other sites in the district have a resource model, with only one resource specialist at each site. Furthermore, general and special educator participants at this site may be more experienced in collaborating with the goal of including all students in the general education. More work needs to be done to understand how Lesson Study can be a sustainable form of a teacher-led professional development, for any teacher to participate in and access, no matter what school site or model.

Finally, the findings in this study are limited to teacher outcomes, but further research is needed to understand the significance of the study and its impact on student learning. Student

work samples and post-lesson assessments could be used as additional data points to further the influence of the research. In addition, the research includes limited information about teacher beliefs and teacher self-efficacy, but further research is needed to explore teacher beliefs about the impact of Lesson Study between general education and special education teachers.

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## Appendix A

### Teacher Survey

1. I learned a lot about my own teaching by participating in this Lesson Study.
  - a. Not so much
  - b. a little
  - c. a lot
  - d. a great deal
  
2. I reflected on my own practice due to participating in the Lesson Study Program.
  - a. Not so much
  - b. a little
  - c. a lot
  - d. a great deal
  
3. My own students benefited/I anticipate my own students will benefit academically from the Lesson Study.
  - a. Not so much
  - b. a little
  - c. a lot
  - d. a great deal
  
4. My own students benefited/I anticipate my own students will benefit behaviorally from the Lesson Study.
  - a. Not so much
  - b. a little
  - c. a lot
  - d. a great deal
  
5. Participating in this Lesson Study improved my own practice.
  - a. Not so much
  - b. a little
  - c. a lot
  - d. a great deal
  
6. The collaboration between my Lesson Study colleagues and myself was mutually beneficial.
  - a. Not so much
  - b. a little
  - c. a lot
  - d. a great deal

7. The Lesson Study supported my planning skills.
  - a. Not so much
  - b. a little
  - c. a lot
  - d. a great deal
  
8. The Lesson Study supported my flexibility.
  - a. Not so much
  - b. a little
  - c. a lot
  - d. a great deal
  
9. The Lesson Study supported my ability to give/receive feedback
  - a. Not so much
  - b. a little
  - c. a lot
  - d. a great deal

## **Appendix B**

## Interview Questions

### Subjects Background

When did you begin teaching?  
How long have you been teaching?  
What roles have you had?  
What role do you have now?  
What are the biggest challenges in your job?  
What do you like about your job?  
What relationships are important in your job?

### Collaboration

What does collaboration mean to you?  
Who do you collaborate with daily, weekly, monthly?  
How do you experience collaboration?  
What are the challenges with collaborating?  
Do you ever felt isolated in your job? Why/Why not?

### Professional Development

How have you experienced professional development in the district/at school?  
Describe a typical professional development activity/day.  
What would you improve?  
What would you change?

### Lesson Study

What components of the Lesson Study Program worked for you? Were there any advantages?  
What components of the Lesson Study Program did not work for you? Were there any disadvantages?  
What were the biggest challenges?  
How would you change the Lesson Study Program?

## Appendix C



September 22, 2017

Jaci Urbani  
50 Acacia Ave.  
San Rafael, CA 94901

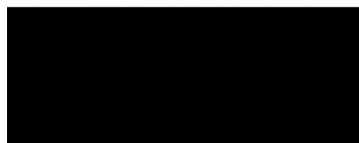
Dear Jaci:

I have reviewed your proposal entitled *Lesson Study: Connecting Theory to Practice for Pre-service and In-service Teachers* submitted to the Dominican University Institutional Review Board for the Protection of Human Participants (IRBPHP Application, #10604). I am approving it as having met the requirements for minimizing risk and protecting the rights of the participants in your research.

In your final report or paper please indicate that your project was approved by the IRBPHP and indicate the identification number.

I wish you well in your very interesting research effort.

Sincerely,



Randall Hall, Ph.D.  
Chair, IRBPHP

Institutional Review Board for the Protection of Human Participants  
Office of Academic Affairs • 50 Acacia Avenue, San Rafael, California 95901-2298 • 415-257-1310 [www.dominican.edu](http://www.dominican.edu)