Most would agree that the profession of teaching, with the increasing emphasis on addressing the diverse educational and behavioral needs of all students in K-12 classrooms, has changed over time. The onset of No Child Left Behind (NCLB, 2001), and more recently the Common Core State Standards Initiative (CCSSI, 2014) and the Every Student Succeeds Act (ESSA, 2015), have considerably influenced society and public schools by requiring more rigor and accountability for all students' success. Additionally, the reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA, 2004) also emphasized inclusion of and maximum access to general education for all children with disabilities.

As such, more students with disabilities than ever before are being taught in general education classrooms, with more access to the same curriculum as their peers without disabilities (Magiera, Smith, Zigmond & Gebauer, 2005). Classroom teachers serve more populations of culturally and linguistically diverse students whose performance lags behind that of their native English-speaking peers (August & Shanahan, 2006). Fueled by the effects of poverty, social inequity, and lack of access to quality education for *all* children, this country's achievement gap among K-12 students continues to widen (Strunk & McEachin, 2014). Given this backdrop, the profession of teaching has become more complex, as educators must work more mindfully and strategically to meet the diverse learning needs of all of our nation's students.

Clearly, as more teachers are working in diverse settings with a range of other professionals (Tröhler, Meyer, Labaree & Hutt 2014), schools must enhance collaborative efforts between general education (GE) and special education (SPED) teachers to help all students achieve to their maximum potential. There is also an increasing emphasis on the process of collaboration and co-teaching in K-12 schools to enhance student learning (Knackendoffel, Dettmer, & Thurston, 2018). Typically, SPED and GE educators are paired together in GE

classrooms to co-teach with the goal of more effectively differentiating instruction to meet all their students' needs. According to Murawski (2010), collaboration is viewed as "a style of interaction in which two or more professionals work together toward a common goal" (p. 11), whereas co-teaching is described as "two or more educators who co-plan, co-instruct, and co-assess a group of students with diverse needs in the same general education room" (p. 11). In essence, effectively teaching all students more often requires two or more highly qualified educators who show commitment and willingness to create a positive partnership (Friend & Cook, 2007) through acquired knowledge and skills that foster effective collaboration (Fennick & Liddy, 2001).

Although collaboration and co-teaching are not new and there is some evidence in the literature indicating various benefits for students, "studies reveal a lack of training regarding this service delivery model" (Murawski, 2010, p. 2). Ideally, ensuring that teachers know how to implement co-teaching models successfully (such as one teach/one assist, parallel teaching, and station teaching) requires district-wide training at the very least. Likewise, higher education faculty in teacher preparation programs can train future GE and SPED educators in the important skills of collaboration and co-teaching, particularly in critical academic areas such as reading and language arts. While co-teaching tends to be increasingly practiced in K-12 schools, much more training on how to effectively use collaboration skills and co-teaching techniques are still needed. More importantly, there is growing need for and evidence of such teaching practices occurring in GE and SPED teacher preparation programs (Bakken, Clark, & Thompson, 1998; Bacharach, Heck, & Dahlberg, 2008; Graziano & Navarrete, 2012; Hudson & Glomb, 1997; Kluth & Straut, 2003). Since the benefits of co-teaching are many – including pairing two highly qualified teachers to bring together their different areas of expertise in one classroom for the

benefit of students with diverse needs (Snell & Janney, 2000) – it seems reasonable that higher education faculty should collaborate, explicitly teach, and model these skills and techniques in GE and SPED teacher preparation programs. Although university students seeking SPED licensure often receive instruction in co-teaching, their GE counterparts could benefit from such training as well (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). Likewise, if co-teaching is to be a carefully choreographed dance between two equal partners, and "if it takes two to tango," as Hudson and Glomb posit in their 1997 article on recommendations for collaboration instruction in teacher preparation programs, "then why not teach both partners to dance?" (p. 442). Therefore, one viable way to prepare all K-12 educators for teaching all children would be to support and increase opportunities for faculty in GE and SPED teacher preparation programs to model co-teaching for their university students. In effect, showing future teachers to "do as we say, *and* as we do" (Kluth & Straut, 2003, p. 228). In this manner, higher education teaching faculty in GE and SPED can serve as models for future K-12 educators.

The purpose of this article is to describe the experiences and perceptions of university students enrolled in two different reading/language arts courses with sessions co-taught by two higher education faculty members (one a SPED professor and the other a GE professor) over two academic terms in their respective teacher preparation programs at a large, diverse, urban public university in the Los Angeles area. Specifically, this study documents the experience of two different terms: GE and SPED university students who attended a series of sessions in their respective courses taught by both faculty (Winter, 2015) and both faculty co-teaching sessions with GE and SPED students combined (Winter, 2016). Survey data were collected on students' pre and post ratings of their own collaboration skills and knowledge about co-teaching, as well as their evaluation and reflections related to the faculty members' co-taught sessions. Experiences

of SPED and GE professors are also shared with the intent to support those who wish to embark on a similar endeavor of modeling co-teaching practices for future K-12 GE and SPED educators.

Background on Faculty Collaboration in Special and General Education Courses

This collaboration involved a SPED faculty member (first author) teaching a university course in teaching reading to children with mild/moderate disabilities for those seeking SPED licensure in California, and a GE faculty member (second author) teaching a reading and language arts instruction and assessment course for those seeking a reading and literacy leadership specialist credential. Although both professors had taught their own courses solo for several years, their collaboration on jointly taught sessions resulted from a collaborative teaching award from their college's innovation, curriculum, and assessment committee. The Associate Dean and college curriculum committee had instituted these competitive grants as a way to increase faculty collaboration across the various departments. The two professors modified their original course syllabi to include four co-taught 45-60 minute sessions by modeling Murawski's (2010) framework of co-teaching, co-learning, and co-assessing to more effectively differentiate reading instruction for diverse learners; the courses had additional assignments, including one in which the GE and SPED university students co-planned differentiated reading instruction for diverse learners in K-12 classrooms. Each session included a presentation on different aspects of co-teaching, discussion of real-world applications to K-12 reading instruction, in-class student activities and written reflections, and exploration of various resources.

Although the content in the co-taught sessions were modeled the same by GE and SPED faculty for both academic terms, the options for students to communicate in completing assignments differed somewhat for GE and SPED students due to scheduling issues. For example, during Winter 2015, students in both courses did not meet on the same night for

classes; however, they had opportunities to communicate in many ways (e.g. meeting f2f, texting, cell phone, skype, etc.) to exchange and share ideas. Winter 2016 students were able to meet face to face in combined classes, in addition to other chosen modes of communication. Topics and descriptions of the co-taught sessions are presented in Table 1.

Table 1 Topics and Description of Co-Taught Sessions in University Courses

Session Topic	Session Agenda
Session # 1 Co-taught in GE and SPED university reading courses	*Topic*: "Speaking the Same Language" *Presentation:* Terminology and rationale for collaboration and co-teaching between general and special educators to promote the reading skills of *all* children *In-Class Activity for Students*: Whose frame of reference is this? In small groups, students discuss slips of paper containing perceptions from general and special education teachers regarding collaboration and co-teaching for promoting reading growth in children with and without disabilities. Students determine whose frame of reference each slip of paper represents and their reactions to the comments. *Resources for Students*: Handouts on collaboration and co-teaching terminology; Understanding differences in support along the collaborative continuum; Co-teaching components checklist *Homework for Students:* Both classes read the case studies of two teachers (the first a special education teacher and the other a general education teacher) and to write their one-page reflections on these teachers' eventual collaboration to support their students in reading/academic skills.
Session # 2 Co-taught in GE and SPED university reading courses	*Topic:* "Establishing the Co-Teaching Partnership" *Presentation*: Nuts and bolts of co-planning for general and special education teachers to maximize the reading achievement of all students *In-Class Activity for Students*: Frame of reference and problem-solving activity (case studies of GE and SPED teachers) *Resources for Students*: Handouts on commonly used co-teaching approaches to instruction, sample co-teaching lesson plan, blank co-teaching lesson plan template, do's and don'ts of co-teaching, S.H.A.R.E. worksheet for co-planning, teacher actions during co-teaching, and ensuring parity or avoiding "glorified aide" status

	Homework for Students: Both classes of students work on co-teaching lesson plan template (due on final night of class). *Article posted on course Moodle page:* Ten Tips for Using Co-Planning Time More Efficiently
Session # 3 Co-taught in GE and SPED university reading courses	*Topic:* "Co-Teaching Models" *Presentation*: Using co-teaching models to support differentiated reading instruction to meet the needs of all children *In-Class Activity for Students*: View and discuss videos on co-teaching models and discuss how each can be used when teaching reading to meet the needs of diverse learners *Resources for Students*: Handouts on creative ways to create co-planning time, sample and blank student profile to facilitate co-planning to meet student needs in the area of reading, and examples of teachers using co-teaching models *Homework for Students:* Both classes of students continue to work on co-teaching lesson plans with their partners
Session # 4 Co-taught in GE and SPED university reading courses	*Topic:* "Tips for Co-Assessment and Co-Teaching Lesson Plan Presentations" *Presentation*: Evaluating student work in co-teaching classrooms and tips for co-assessment of students' reading skills *In-Class Activity for Students*: Students share co-teaching lesson plans in small groups and with whole class, reflecting on successes and challenging in co-planning reading lessons to meet the needs of students with diverse learning needs, including those with mild/moderate disabilities, English language learners, and students who are gifted/talented *Resources for Students*: Handouts on strategies for co-assessment and co-assessing checklist

The lesson planning assignment for both courses involved university students in SPED working with a partner(s) from the GE course to create a co-teaching reading lesson to meet the differentiated learning needs of children in K-12 grades. The students were all assigned to a partner and/or triad consisting of students from each class to co-plan a reading lesson together, utilizing the co-teaching approaches that were modeled by the professors in class. Students were

also asked to address the specific needs of children with mild/moderate disabilities, English language learners, and those who are gifted and talented in their lesson planning. Although the students in the SPED and GE university courses did not have the opportunity to actually implement their co-teaching lesson plans, they gained the experience of collaborating and communicating with a student in the other program to co-plan their reading lessons, thus simulating the challenges and rewards that GE and SPED teachers face in working together in K-12 schools to effectively teach a diverse population of children.

As the professors co-taught sessions, they discussed with GE and SPED students the process, benefits, and challenges of their own faculty collaboration in order to model strategies that the students could themselves apply to their own planning of their co-teaching lesson assignment. The students engaged in rich and lively discussions throughout both terms about the complexities of experiences (both positive and negative) as GE and SPED educators working together in this age of inclusion and educational accountability to meet the differentiated reading needs of diverse learners in K-12 classrooms.

This study focused on the university students' beliefs and perceptions about collaboration and co-teaching while participating in GE and SPED co-taught sessions. Specifically, the following research questions were posed:

1) What were GE and SPED university students' overall perceptions and beliefs about their learning experience regarding co-teaching and collaboration?

2) How did GE and SPED university students' perceptions of their own collaboration skills and knowledge of co-teaching change from the beginning to the end of the academic terms in these co-taught courses?

3) How did GE and SPED students rate the effectiveness of the professors' co-taught sessions in teaching them about collaboration and co-teaching?

4) What were the overall perceptions and experiences of the faculty modeling collaboration and co-teaching practices?

Method

Participants

The participants in this study were 59 university students combined in GE and SPED preparation programs over two different academic term years. Of these students, twenty-six were enrolled in the SPED professor's course, while 33 students were enrolled in the GE professor's course. A total of 34 students were enrolled in the professors' courses in Winter 2015, and 25 students were enrolled in the professors' Winter 2016 courses. The participants consisted of 51 females and 8 males, with an average age of 32 years. Table 2 presents characteristics of the university students participating in this study. Preliminary analyses showed that there were no demographic differences between students enrolled in the courses during Winter 2015 and Winter 2016, as well as no differences between students enrolled in the GE versus SPED education university courses. Thus, all students' responses from both terms and courses were combined together for analysis of research data.

Table 2 Characteristics of University Students in General and Special Education Courses

Characteristics	Participants
Gender	
Males	8
Females	51
Ethnicity	
Hispanic	38
Caucasian	9
Asian	8
African-American	2
Multiracial	2

Student Status: Degree Goal	
Mild/Moderate Disabilities Credential	23
Master's Degree in Reading	31
Early Childhood Special Education	1
Moderate/Severe Disabilities Credential	2
General Education Credential	1
Master's Degree in Special Education	1
Prior Certification	
None	38
General Education Credential	15
Special Education Credential	6
Current Job	
None	13
Special Education Intern	10
Special Education Teacher	2
General Education Teacher	16
Paraprofessional	12
Substitute Teacher	6

Measures

Collaboration Self-Assessment Tool (CSAT; Ofstedal & Dahlberg, 2009). Before

introducing the plan for co-teaching to the GE and SPED education reading courses, the

professors asked the university students in each class to rate their own collaboration skills using

the CSAT at the beginning of each academic term. At the end of the terms, the professors again

administered the same tool in both their courses. The CSAT asked students to rate themselves on

the following skills important for effective collaboration: *contribution*, *motivation/participation*,

quality of work, *time management*, *team support*, *preparedness*, *problem solving*, *impact on team*

dynamics, *interactions with others*, *role flexibility*, and *reflection*. For each item, scores range

from 1 to 4 (with 1= low, unable to demonstrate the skill to 4 = high, consistently demonstrate

the skill). The composite CSAT items range from total scores in the 10-25 range indicating

"emerging" collaboration skills, total scores in the 26-34 range indicating "developing"

collaboration skills, and total scores in the 35-44 range indicating "established" collaboration skills. In addition to the total score, items are also grouped into interpersonal versus intrapersonal collaboration skills.

Collaboration and co-teaching beliefs survey. At the beginning and end of each academic term, students completed a survey on their beliefs about their competence in and their perceptions of collaboration and co-teaching. Used in previous studies (Ricci, Zetlin, & Osipova, 2017), this survey consisted of nine questions on a 4-point scale (with 1= strongly disagree to 4 = strongly agree), with a highest possible score of 36. Items included questions such as *a) working collaboratively with a co-teacher to create lesson plans improves teaching and learning in the classroom*, *b) I believe that I have developed good collaboration skills necessary for co-teaching*, *c) I understand my roles and responsibilities in the co-teaching process*, *d) collaborative co-teaching greatly benefits both general and special education students*, and *e) if required for my job, I feel competent about co-teaching with a general educator.* Total scores on this survey reflect a positive perception of and knowledge about collaboration and co-teaching between GE and SPED educators.

University students' open-ended responses. At the beginning and end of each academic term, students in both courses were asked to share their perspectives on co-teaching. In written responses, they answered the following questions: *Please tell us what you know about collaboration and co-teaching. What are your thoughts about and/or experiences with collaboration and co-teaching?* Students commented on both course experiences and general knowledge about collaboration and co-teaching.

Co-teaching session evaluations. After engaging with the content and activities designed for each of the co-taught sessions, students rated the effectiveness by completing brief

evaluations. The evaluations consisted of three items: 1) *this session increased my knowledge of collaboration and co-teaching between general and special educators*, 2) *this information in this session was useful and practical for my current or future role as general/special educator*, and 3) *overall, the instructors were effective at teaching the content of this session* (items were rated on a Likert scale, with 1 = strongly disagree and 4 = strongly agree). At the bottom of each evaluation form, students were also encouraged to write open-ended comments about the co-taught sessions.

Data Analysis Procedures

Both quantitative and qualitative research methodology was used in this mixed method study. The quantitative data from surveys was analyzed using SPSS. Descriptive statistics and paired-samples t-tests were examined to determine the trends in the quantitative data. Qualitative data was coded by researchers for emerging themes, following the grounded theory approach of Glaser and Strauss (1967) and procedures of sound qualitative research recommended by Brantlinger et al. (2005). The researchers examined every participant response to ascertain patterns that could lead to general concepts. The data were coded into categories, with resulting similarities being analyzed to create themes. Quality indicators of sound qualitative data analysis for this study included triangulation of data, investigator triangulation, researcher discussion to describe and interpret data, and conclusions substantiated by sufficient quotations from participants' responses. The quantitative and qualitative data were also triangulated to note patterns in the students' experiences of learning from faculty modeling of co-teaching practices in the university courses.

Results

Students' evaluations of their own collaboration skills. There was a significant difference for all students in their CSAT total scores at the beginning (pre) versus the end (post) of the academic terms, indicating that the students felt their own collaboration skills had improved during the courses (Pre-CSAT score for all students X = 35.29 (2.59); post-CSAT score for all students X = 37.07 (3.43); t (58) = -4.134, p < .001). On both the interpersonal and intrapersonal domains of the CSAT, the students rated themselves higher at the end of the academic terms (Pre-CSAT interpersonal score X = 16.42 (1.71), post-CSAT interpersonal score X = 17.22 (1.84); t (58) = -3.537, p < .005; Pre-CSAT intrapersonal score X = 18.86 (1.80), post-CSAT intrapersonal score X = 19.85 (2.08); t (58) = -3.240, p < .005). The areas in which the students reported growth from the beginning to the end of the academic terms were: *contribution*, t (58) = -2.805, p < .01; *quality of work*, t (58) = -2.430, p < .05; *team support*, t (58) = -2.521, p < .05; *role flexibility*, t (58) = -2.011, p < .05; and *reflection*, t (58) = -2.592, p < .05.

Students' perceptions and knowledge about collaboration and co-teaching. Paired samples t-tests on the results of the collaboration and co-teaching beliefs survey showed a significant difference in the 59 students' total scores from the beginning to the end of the academic terms (pre total X = 26.20 (3.48); post total X = 29.76 (3.06); t (58) = -6.505, p < .001). The students' mean scores changed significantly on the majority of survey items. See Table 3 for pre and post mean combined scores on the collaboration and co-teaching beliefs survey.

Table 3 Students' Responses to Collaboration and Co-Teaching Beliefs Survey

Item	Pre Mean (SD)	Post Mean (SD)	*t*
1. Working collaboratively with a co-teacher to create lesson plans improves teaching and learning in the classroom.	3.56 (.68)	3.56 (.60)	.000

2. I believe that I have developed good collaboration skills necessary for co-teaching.	3.00 (.67)	3.31 (.56)	-2.876*
3. I understand and can apply the models of co-teaching.	2.93 (.69)	3.34 (.51)	-3.578*
4. In my job, I am likely to initiate co-teaching with another qualified teacher.	2.63 (.89)	3.05 (.60)	-3.243*
5. I understand my roles and responsibilities in the co-teaching process.	3.05 (.68)	3.46 (.50)	-3.953*
6. Children benefit most from having only one teacher as the authority figure in their classroom (reverse scored).	2.03 (.85)	3.25 (.80)	-7.206*
7. In my job, I would rather teach by myself in my own classroom (reverse scored).	2.39 (.59)	2.75 (.68)	-2.794*
8. Collaborative co-teaching greatly benefits both general and special education students.	3.56 (.50)	3.59 (.50)	-.444
9. If required for my job, I feel competent about co-teaching with a general (or special) education teacher.	3.05 (.65)	3.46 (.54)	-4.067*

University students' open-ended responses. Thematic analysis of the university students'

responses to the open-ended questions (*Please tell us what you know about collaboration and co-

teaching. What are your thoughts about and/or experiences with collaboration and co-

teaching?*) showed a similar pattern of themes across both academic terms and both GE and

SPED classes. The themes gleaned from the data were: *working together*; *mutual planning*;

sharing responsibility; *having an open relationship*; *being receptive to ideas and improvements*;

respecting each other; and *being flexible*. See Table 4 for examples of participants' comments

for each of these themes. In most cases, the themes overlap and intertwine between GE and

SPED students. Table 5 shows the frequency of these themes for the university students enrolled

in both the GE and SPED education courses.

Table 4 Examples of Participants' Comments for Each Theme

Theme	Participants' Comments
Having an open relationship	We felt comfortable being open with each other and stepping in when needed to help students and each other

	It was important to have an open relationship and be on the same page
	All parties need to be open and freely willing to be on the same page with each other
	We had an open mind to best solve problems and situations
Being receptive to ideas/improvements	It is extremely important to be receptive to one another and really hear each other
	We were receptive to getting to know each other in both a formal and informal way
	It is important to open your mind and thoughts to those of others
	Taking the time to understand each other's views that might be different
Being flexible	We were willing to be flexible with each other.
	Co-collaborators need to be flexible and willing to go out of their comfort zone
	You need to be willing to be flexible in order to produce the best possible lessons
Working together	Working together to reach the different learners and help them master the skills they need
	This is a process of working together to create a desired outcome
	We worked together as a team
	Collaboration is when two people work together toward a common goal
Sharing responsibility	Roles are equally represented throughout the lesson
	It is no longer "my" or "your" students; it is now "our" students
	Sharing ideas and roles with each other was great
	It is essential that equal distribution of work is established to develop the most effective co-teaching dynamic
Mutual planning	We benefited from setting aside "sacred planning time" that benefited our joint planning process

	I did not realize how much planning together it takes, but we made time to plan together
	We made the effort to really plan together
	Co-teaching requires planning time to effectively use co-teaching models
Respecting each other	Everyone needs to have respect for each other to achieve a common goal
	Great co-teachers are respectful toward each other
	Respecting each other was very important for us
	Respectful communication really is the key

Coupled with the themes were many positive statements from the SPED and GE university students about their overall experience across both courses and terms. Students mentioned that their "eyes have been opened to the great potential" of the co-teaching models that were presented during the co-taught sessions. Students also commented that it was a "great experience" and saw "many benefits to collaborating and co-teaching." They said that they had hopes of "carrying over skills learned" into their future and or current teaching positions. Winter 2015 students in both classes offered more descriptions about their varying levels of satisfaction regarding their communication (both positive and negative) between their partners than Winter 2016 students, possibly because they had more opportunities to collaborate in person with their partner. Excerpts of students' written responses include the following:

Collaboration and co-teaching can take many forms. Co-teaching

especially with other teachers who have advanced/specialized degrees

can be a highly effective way to differentiate instruction and meet

varying needs of all students. (GE student, 2015)

Overall, I feel the experience was useful in being able to

think deeper about differentiating instruction more deliberately

in a classroom setting. (GE student, 2016)

There is an important value in hearing the other

person's voice and building compassion for the other person. The

compassion helps you stay professional, so you can both

support each other through the process. In the end, it is the students

who gain the most from it. (SPED student, 2015).

If more teachers were trained with knowledge of this concept

and model, more opportunities to collaborate would occur. This

would benefit all students. (SPED student, 2015).

I think more classes should have blending and collaboration

assignments. I think it would be easier or less intimidating.

(SPED student, 2016).

In addition to students highly favoring the overall experience, many students also

mentioned a shift in their beliefs about co-teaching at the completion of the term. These two

students highlight it best:

My thoughts about co-teaching have changed. I believe it is

important to implement it in the classroom because as a team, we can

assist students with learning disabilities in the classroom. Further, my

experience co-teaching has assured me that co-teaching is the method to

improve and maximize learning in the classroom. (SPED student, 2016).

I learned a lot about differentiating instruction in order to reach

all students' learning needs. [She] My partner came up with many

different accommodations that I never would have thought of doing,

as well as encourage/inspired me to come up with a few accommodations

myself. (GE Student, 2016).

Table 5 Frequency of Themes in Preservice Educators' Responses

Students in Special Education Course	Frequency
Respecting each other	80%
Working together	67%
Mutual planning	64%
Sharing responsibility	55%
Being flexible	50%
Being receptive to ideas/improvements	40%
Having an open relationship	36%
Students in General Education Course	Frequency
Having an open relationship	63%
Being receptive to ideas/improvements	60%
Being flexible	50%
Working together	48%
Sharing responsibility	44%
Mutual planning	36%
Respecting each other	20%

Evaluations of co-teaching sessions. Results of students' ratings from both classes

indicated that they believed that the professors' co-teaching increased their knowledge, that the

professors provided practical and useful information for their roles as general and special

educators, and that the professors were effective at delivering the content. See Table 6 for

students' evaluations of the professors' co-taught sessions.

Table 6 Students' Evaluations of Co-Taught Sessions in University Courses

Item	Co-Taught Session # 1	Co-Taught Session # 2	Co-Taught Session # 3

	Mean (sd)	Mean (sd)	Mean (sd)
This session increased my knowledge about the topic	3.45 (.60)	3.56 (.50)	3.67 (.58)
Information in session was practical and useful for my current or future role as general educator/special educator	3.53 (.63)	3.54 (.54)	3.62 (.53)
Overall, the instructors were effective at teaching the content of this session	3.76 (.55)	3.69 (.47)	3.78 (.42)

Open-ended comments on the co-teaching session evaluations indicated a positive

learning experience for the university students. Most students commented that they "valued the

sharing of ideas" and learned that co-planning, co-teaching, and co-assessing by GE and SPED

educators can help students in K-12 grades become more successful readers. One student

commented:

> I learned that we need each other to have our students be successful in
>
> their education. If general and special education teachers work together,
>
> they can accomplish a lot with their students. By doing this, the students
>
> benefit a lot more than by just having one teacher.

Repeatedly, the university students commented on the potential value in teaming and working

together to benefit and improve students' reading achievement.

Discussion

This article explored the perceptions and experiences of university students enrolled in

GE and SPED reading courses, in which two professors jointly taught and modeled the process

of collaboration and co-teaching for students, as well as provided course activities and assignments to develop students' knowledge and skills in these areas. The goal of the study was to determine whether students' perceptions of their own collaboration skills and their knowledge of co-teaching changed from the beginning to the end of the academic terms, and how they rated the effectiveness of class sessions co-taught by both professors.

Although university students in both GE and SPED courses rated their own collaboration skills in the "established" range in the beginning of the academic terms, they reported more growth in their collaboration skills by the end of the courses, indicating that professor modeling and student practice in collaborative activities improved at least their perceptions of their collaboration skills. The university students also showed improved results in both interpersonal and intrapersonal skills from the beginning to the end of both academic terms. Significant areas of improvement for students were in *contribution*, *quality of work*, *team support*, *flexibility* and *reflection*, perhaps because these were salient skills used while engaging in co-planning of their lessons in reading. Similarly, these practicing and future GE and SPED educators gained in their knowledge and positive perceptions of co-teaching, as indicated by increased ratings on all but two items of the co-teaching beliefs survey. The most significant growth seemed to be that students were apt to no longer consider children as benefiting from only one authority figure in the classrooms, with improvements also in their understanding of co-teaching models, understanding of roles and responsibilities of co-teachers, and their likelihood to initiate co-teaching themselves in their own teaching jobs. University students' positive ratings of professors' co-taught sessions provide support that it was indeed these course topics and experiences that initiated change in students' collaboration skills and knowledge of co-teaching, lending support to the importance of higher education faculty modeling co-teaching for K-12

teachers (Bakken, Clark, & Thompson, 1998; Bacharach, Heck, & Dahlberg, 2008; Graziano &

Navarette, 2012; Hudson & Glomb, 1997; Knackendoffel, Dettmer, & Thurston, 2018; Kluth &

Straut, 2003).

Several themes also emerged from pre and post data (with open-ended responses):

working together, mutual planning, *sharing responsibility*, *having an open relationship*, *being*

receptive to ideas and improvements, *respecting each other*, and *being flexible*. These insights

into co-teaching by these university students at the end of the academic terms are aligned with

research on co-teaching among in-service GE and SPED teachers (Murawski, 2010; Murawski &

Swanson, 2001; Scruggs, Mastropieri, & McDuffie, 2007). It is interesting to note that while

these themes emerged from the responses of all students, there was a difference in the order of

importance for students enrolled in GE versus SPED courses. For the future SPED teachers, the

most important aspects of collaboration and co-teaching were respect, working together, and

mutual planning. For GE university students, the most salient aspects were having an open

relationship, being receptive to ideas and improvements, and flexibility. While GE and SPED

students had slightly different perspectives on the order of importance, it seems the building of

professional relationships between GE and SPED partners was key to effectively create a

positive environment for learning for K-12 students.

One question to explore further is whether this collaboration and co-teaching on the part

of higher education faculty should be more focused on practical likely job scenarios encountered

by GE and SPED teachers. For example, would future GE teachers benefit from learning how to

collaborate better with the myriad professionals participating in their classrooms in inclusive

settings? Or should future SPED teachers be more specifically prepared to collaborate with

multiple individuals, as they are likely to support students with disabilities in several GE

classrooms? We suspect a combination of both would work best. While there was success in our first and second co-teaching endeavors, there is still more to learn. We might also have been more fortunate in having administrative support when other faculty in different contexts may face challenges in seeking out co-teaching experiences. Similar to K-12 schools in which the administrator's role is critical for co-teaching success (Murawski & Dieker, 2013; Villa, Thousand, & Nevin, 2013), so is the support of university Deans and department chairs in facilitating and nurturing such co-teaching practices. Therefore, to further advance the field, there is a need for higher education faculty who co-teach courses for practicing and future K-12 GE and SPED teachers to share their successes and lessons with the broader faculty in their departments and colleges, thereby encouraging others to engage in similar collaborative efforts to model co-teaching practices for university students.

Implications

The current study suggests that when two professors thoughtfully co-plan together and effectively model collaboration and co-teaching practices, students have more opportunities to observe, reflect, and potentially change their perceptions and beliefs about such practices. Similarly, when faculty from GE and SPED programs together present opportunities and different perspectives, university students implement more ways to differentiate reading instruction to benefit all students. Ideally, providing opportunities for GE and SPED university students to be in combined classes can also allow them to build relationships of trust and respect by providing easier access to a shared learning experience about collaboration and co-teaching. Furthermore, these findings shed light on the logistics and realities that could encourage other faculty to improve communication between GE and SPED teacher certification programs. This could lead to better preparation and create a more positive experience for future teachers.

Moreover, these findings promote further discussion and momentum on the growing body of research related to co-teaching and collaboration in GE and SPED teacher training programs, thus encouraging university students' future collaboration in K-12 classrooms.

Limitations

The limitations of this study included a relatively small number of participants enrolled at one university that can affect the generalizability of the study. While faculty tried to teach the same content for all co-taught sessions, limitations include time constraints of the study conducted during two different academic terms. In addition, participants did not all have the same access to opportunities to communicate face-to face throughout the experience in both terms due to scheduling (although students were given other options to communicate). Additionally, data was self-reported, meaning the university students were asked to complete pre and post surveys during class about their perceptions. Meyers (1998) points out that some of these limitations can also be viewed as possibilities because these constraints do not necessarily invalidate findings, but rather "make them practicable and interpretable for the method" (p. 107). Finally, since some university students wrote their names on their surveys and others were anonymous, they could have been more positive in their responses to please their professors. However, the faculty did make it clear to students that their honest feedback would be most appreciated, and that their course grades would in no way be affected by their positive or negative responses.

GE and SPED Faculty Experiences

Throughout this project, as both faculty members were collaborating and co-teaching together, we shared many positive experiences. First, we discovered that working together on a joint project was an invitation into each other's world. We viewed it as an opportunity to share a new set of understandings and experiences about teaching and learning with our students, and

each other's programs. Secondly, we learned that it takes time to learn, understand, and speak each other's language. For example, early on, we often had to clarify our ideas to get our meaning across regarding assignments, grading, and so on. Third, we established a structure or "sacred times" for our co-planning and divided up duties and responsibilities equitably. We also had to have patience and be flexible with each other since we had very different life/career/family/work responsibilities. We also exchanged or forwarded emails from students in our classes to each other if there were any questions or clarifications about assignments. We also felt more comfortable the second time working together, although we had different groups of students. Lastly, and more importantly, we used multiple approaches to check in and communicate (e.g. email, texting, in-person meetings, phone calls) with each other, and this even included planning while walking together to class.

Conclusion

The overall experience was a positive one for GE and SPED university students as well as the respective faculty on many levels. First, survey data indicated that the co-taught sessions and planned activities were a beneficial learning experience in both terms and classes. Second, modeling by GE and SPED faculty for university students included consistent communication, flexibility, and agreement to share duties. There was also careful co-planning, co-teaching, and co-assessing by each faculty member throughout the project. Next, there was support from the university administration, and the study's preliminary findings were shared with the broader faculty community in a meeting organized by the college Dean. Students also had opportunities to reexamine their beliefs and perceptions about co-teaching and collaboration as a result of this experience. Lastly, the themes that emerged indicated that students were more open to and

recognized the importance and potential benefits of building professional relationships for co-teaching and collaboration in their current and future classroom settings to help all students.

Although there were many successes, some faculty members may be hesitant to model co-teaching in their university courses, especially if they are not familiar with each other or know their colleagues' programs or teaching philosophies. Yet research shows that co-teaching and collaboration have some valuable benefits for K-12 students (Murawski, 2010; Murawski & Swanson, 2001; Scruggs, Mastropieri, & McDuffie, 2007), and that higher education faculty modeling of co-teaching practices in teacher preparation programs can influence the perceptions and skills of future educators (Bakken, Clark, & Thompson, 1998; Bacharach, Heck, & Dahlberg, 2008; Graziano & Navarette, 2012; Hudson & Glomb, 1997; Knackendoffel, Dettmer, & Thurston, 2018; Kluth & Straut, 2003). More research is needed to determine the most appropriate ways for faculty to combine university courses to best achieve the intended outcomes of preparing K-12 GE and SPED teachers who are confident and capable of teaching all children with diverse learning needs. In particular, research should be conducted on the impact of this type of preparation on GE and SPED teachers, and whether their practices in the field will indeed be more sophisticated given this opportunity to learn from higher education faculty engaged in co-teaching, or whether this knowledge and training will improve education for the children served in the teachers' future classrooms. Based on this study, it is indeed promising for faculty in teacher preparation programs to consider modeling collaboration and co-teaching practices for future K-12 GE and SPED teachers, as a viable means of addressing the differentiated learning needs of diverse groups of children in this complex age of accountability and inclusion.

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