

**Secondary Cross-Curricular Planning for Emergent Bilinguals:
An Action Research Study of Effective Factors**

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Abstract

Teacher collaboration across the curriculum at the secondary level is highly uncommon. Many teachers at the secondary level become experts in their subject matter, and thus their interactions across content areas are limited. This action research aimed to document the interactions of two secondary teachers during cross-curricular collaboration and collect data through teacher surveys and teacher goal quick writes on the influencing factors that promote successful teacher collaboration. In this research, teachers participated in one orientation session and three professional development and guided discussion sessions. Qualitative data analysis revealed the influencing factors affecting cross-curricular collaboration stemmed from the time provided for teachers to collaborate and on their perceptions regarding collaborative practices.

Keywords: cross-curricular collaboration, emergent bilinguals, secondary

NOTE TO THE READER: *In this action research, we will refrain from labeling students as either Limited English Proficient (LEP) or English Language Learners (ELLs). Garcia (2009) stated that identifying this student population as LEPs or ELLs neglects the importance of providing equitable instruction to these children. As such, throughout this action research, we will refer to this student population as emergent bilinguals. This supports Garcia's (2009) argument that the name, emergent bilinguals, refers to the students' ability to use their bilingualism as a tool instead of implying the use of the students' home language is a problem. Thus, referring to ESL students as emergent bilinguals sets the course for teachers to collaborate to develop and use strategies that support the students' bilingualism. This can help teachers make meaningful connections during cross-curricular collaboration and focus on building strategies that use the students' linguistic repertoire to enhance content comprehension.*

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We define cross-curricular collaboration as a teaching methodology that allows teachers to help children apply what they have learned in other disciplines (Harish et al., 2012). Davidson (2006) stated that over the past 20 years, most English-speaking schools have implemented some form of teacher collaboration to support English as a Second Language (ESL) students. However, cross-curricular collaboration continues to be an exception in many United States schools.

Lo (2015) stated that although teacher collaboration has latent advantages, the realization of cross-curricular collaboration appears to have encountered resistance. For example, in the U.S., cross-curricular collaboration becomes a challenge for teachers due to curriculum inflexibility and scheduling conflicts. These problems are heightened at the secondary level because schools seldom provide teachers of different disciplines in the same grade level time to collaborate. As such, many opportunities are missed that could provide teachers with insights on approaches and strategies they can use to support their students.

In addition to curriculum inflexibility and scheduling conflicts, another problem that may arise are teacher conceptions about teaching and learning. These conceptions can influence the way teachers collaborate across disciplines as they might have their own ideas about what constitutes teaching and learning in their subject areas (Andersen & Krogh, 2010). These notions are not unfounded because they are shaped by various influences including personal experiences, enculturation into a specific discipline at the university, and approaches taken during teacher training programs (Andersen & Krogh, 2010).

Currently, little research documents the factors that influence successful cross-curricular collaboration at the secondary level supporting the academic development of emergent bilinguals. Harris and Grenfell (2004) shared that an evident attraction to studying cross-curricular collaboration is that if we can understand how ESL students are successful, we can adapt our approaches to support them in their second language acquisition process. As such, this research argues that providing time and space for cross-curricular teacher collaboration can improve teachers' drive to implement second language acquisition strategies. We also suggest that cross-curricular collaboration, combined with short professional development sessions, can increase teachers' receptiveness to collaborate.

For this action research, cross-curricular collaboration, at the secondary level, is intended to be used as a tool to help teachers plan how to implement strategies that can support the development of emergent bilinguals across disciplines. To document the factors influencing and promoting teacher collaboration, we investigated teacher collaboration using a phased model approach. Our focus was on documenting teacher perceptions and interactions in three phases: Phase 1: before teacher collaboration; Phase 2: during teacher collaboration; and Phase 3: after teacher collaboration. A series of surveys and teacher quick writes regarding the influencing factors that enhance teacher collaboration were collected during each phase.

Research Question

What factors influence successful grade-level cross-curricular collaboration between secondary teachers of emergent bilinguals?

Review of the Literature

According to Harish et al. (2012), the methodology of cross-curricular collaboration helps students see how multiple disciplines connect. Similarly, Bush et al. (2020) explained that during collaboration, teachers work together to become more efficient. Although cross-curricular collaboration has been well defined by researchers, Lo (2015) explained that very limited research has examined the effectiveness of cross-curricular collaboration. Unquestionably, students at any grade level are better served by teachers who collaborate (Roache et al., 2003). However, there is an absence of research that examines the collaborative best practices

supporting culturally diverse students (Roache et al., 2003). Merga et al. (2020) advised that as more students enter the secondary levels with low literacy skills, preparing teachers to meet their needs is crucial to supporting their academic development. As such, more research is needed to understand the effectiveness of cross-curricular collaboration and which practices should be emulated to support student learning. Cross-curricular collaboration is currently an abridged practice at the secondary level as time and curricular constraints thwart teachers' ability across disciplines to collaborate. Roache et al. (2003) proposed that to meet the needs of all students, training on collaborative models must be put in place.

Research on Teacher Collaborative Experiences

Roache et al. (2003) stated that teacher collaboration in schools is not new. Research on ESL and content-area teacher collaboration reported that collaboration can promote professional growth as teachers can develop new ideas related to the instruction of emergent bilinguals (Giles & Yazan, 2020). However, despite the potential of collaboration becoming a viable solution for students, teacher collaboration has not become the teaching norm in content classrooms largely because of a lack of teacher preparation and scheduling conflicts (Giles & Yazan, 2020).

As an example, Newman et al. (2010) investigated factors impacting the willingness of educators to genuinely engage in professional learning and supporting teacher collaboration. Evidence from the Newman et al. (2010) year-long research on a program to build teacher capacity during teacher professional development showed that "sixty-five percent of content teachers reported collaborating with an ESL teacher, yet 55% of the respondents skipped the subsequent question asking them to elaborate on their collaborative activities" (p.156). Thus, the responses obtained from the survey made the researcher question the verifiability of the collaboration. As such, it is important to consider that collaboration among grade-level disciplines can challenge teachers, particularly as the teachers might have conceptions about what constitutes teaching and learning in their subject areas (Andersen & Krogh, 2010). Therefore, teacher collaboration requires time and effort that may overwhelm an already overworked teacher (Harris, 2008).

Merga et al. (2020) stated that "little is known about current strategies, resources, and interventions secondary teachers use to support struggling students"(p.266). Voogt et al. (2016) suggested two conditions provide facilitation structures for teacher collaboration: time and training. In addition to providing time and training to support teacher collaboration, Vangrieken et al. (2015) shared some influencing personal characteristics can enhance teacher collaboration, such as the group members' attitudes, personalities, or capacities. The author adds that teachers must, for example, "have a willingness or commitment to collaborate, understanding the benefits of teaming and the combination of particular skills and knowledge and experience in teaming" (Vangrieken et al., 2015; Main, 2007; Stephenson et al., 2008, p. 29).

Bush et al. (2020) explained it is vital to classify different forms of collaboration to investigate collaboration. When analyzing the collaboration between content and ESL teachers, Newman et al. (2010) examined the collaborative experiences between teachers including discussions about the students' educational background and academic progress; the discussion of suggestions, strategies, and resources to support ESL students; and collaborative work to modify lessons and assignments.

Additionally, Bush et al.(2020) drew on Little's (1990) research that explained four types of professional teacher interactions: "Storytelling, help and assistance, sharing, and joint work" (p. 2). Further, Newman et al. (2010) recommended that building professional development to support collaboration between ESL and content teachers should include promoting learning sessions that (1) teach the basics of second language acquisition, (2) help teachers develop awareness about methodologies to teach emergent bilinguals, (3) help ESL and content teachers look for best practices for teaching emergent bilinguals, and (4) teach how culture influences the classroom.

Looking Forward

Looking forward, Savage (2012) stated a cross-curricular approach should focus on sharing knowledge, skills, and new understanding across disciplines. As educators, our role is to provide students with the ability to see patterns across different subjects (Harish et al., 2012 & Bateson, 1988), and teacher collaboration is crucial to maximizing students' growth and development from diverse backgrounds (Roache et al., 2003). This cannot be done if teachers are not given the opportunity to develop their cross-curricular collaboration skills. As such, Vangrieken et al. (2015) stated a need for change in teacher attitudes toward collaborative practices.

The literature regarding cross-curricular collaboration agreed this teaching methodology supports teacher partnerships, helping students make connections across subjects and improve their literacy skills. Through cross-curricular collaboration, students can "increase their basic skills, positive attitudes, higher-order thinking skills, teamwork, group learning, besides sensitivity, leadership qualities, etc." (Harish et al., 2012, p.4). However, Roache et al. (2003) explained it is crucial to exert caution when promoting teacher collaboration. As such, Merga et al. (2020) stated more studies need to focus on how ongoing professional development can prepare teachers to support student literacy. Undoubtedly, effective teacher collaboration does not come by itself (Vangrieken, et al., 2015). Thus, Voogt et al. (2016) explained teacher teams need external support to enhance their collaboration.

Teacher collaboration is not a miraculous way to solve all problems (Vangrieken et al., 2015). As such, the research regarding teacher cross-curricular collaboration urges attention to both the positive and negative effects of collaboration. Although many obstacles need to be overcome for teacher collaboration, at the same time, many reasons support why collaboration could be effective (Vangrieken et al., 2015). Teacher interactions can vary depending on the level and type of collaboration to which teachers are exposed (Davidson, 2006). As such, Roache et al. (2003) noted more training is needed for teachers to learn how to collaborate to serve a diversity of students.

Methodology

Throughout this action research, two secondary grade-level cross-curricular teachers participated in a three-phased data collection model during scheduled after-school professional learning community (PLC) meetings. The first phase was the teacher orientation, which was held for a total of 30 minutes; the second phase was composed of three 30-minute professional development (PD) sessions, and the third phase was the completion of the Qualtrics Teacher Perception Survey (TPS). After completing the TPS, the participants had the opportunity to describe their collaborative experiences, including their thoughts on how cross-curricular collaboration impacted student performance in their classrooms.

Each PLC professional development was divided into two sessions: 1) a 15-minute PD on a topic of interest collected from a self-reflection survey and 2) a 15-minute guided discussion session. These sessions were developed to document the factors that influenced the participating teachers' collaboration with their cross-curricular peers. Throughout the research, qualitative data were collected in the form of surveys and teacher goals quick writes.

Study Participants

The participating teachers were selected based on convenience. This non-probability sample was comprised of two female secondary teachers—a sixth-grade ESL teacher and a sixth-grade mathematics teacher. The ESL teacher had six years of teaching experience, four of which were in elementary education and two in secondary education. The mathematics teacher had four years of teaching experience, three in elementary and one in secondary education.

Instrumentation

For this action research, the researcher developed three instruments for qualitative data collection: 1) the teacher self-reflection survey, 2) two teacher goal quick writes, and 3) the TPS.

The Teacher Self-Reflection Survey. The first instrument used was a teacher self-reflection survey. This survey contained 16 questions on four topics, with three questions on each topic: 1) Instructional Practices, 2) Collaboration, 3) Building Relationships, and 4) Classroom Management. The survey was used to help teachers create their goals.

Teacher goal quick write. After completing the self-reflection, the teachers created their first goal through a quick write activity. A quick write activity is when a participant has 5-10 minutes to respond to a prompt. This instrument was used by the researcher to determine the topics where teachers felt they needed more PD. The teachers were later allowed to revise their goals a second time after receiving targeted PD. These data helped determine the influence the cross-curricular collaboration and PDs were having on teacher perceptions.

TPS. After collaborating with their cross-curricular peer and participating in the targeted PD, the researchers used the TPS as the instrument for data collection in this action research. The TPS was a 20-question Likert scale survey with five questions on four variables of teacher perceptions: 1) purpose, 2) instructional practices, 3) time and compensation, and 4) teacher perceptions.

Research Design

The purpose of this action research was to document the factors that influence successful teacher collaboration across content. We wanted to know how cross-curricular collaboration can be used as a tool to support teachers in the planning and development of strategies to support the academic development of emergent bilinguals. This research was conducted in three phases. Phase 1 was a teacher orientation and completion of an initial survey and the first teacher goal; Phase 2 was the teacher PD sessions during scheduled after-school PLC meetings, and Phase 3 was the completion of the final TPS.

The phased model was used not to overwhelm the participating teachers with a bulk of information but rather to gradually encourage teacher collaboration by exposing them to a 30-minute PD and a short collaborative discussion session on an area of interest. The sessions were targeted and based on the initial teacher survey and allowed the participants to collaborate and hold meaningful discussions with their cross-curricular peers.

Initially, the cross-curricular collaboration PLCs were intended to be provided on a biweekly basis, starting in August 2020 and ending in November 2020. However, due to the COVID-19 pandemic and extenuating circumstances that interrupted the teacher cross-curricular meetings, the teachers could only meet for a total of three sessions from August to October 2020. During the cross-curricular meetings, the participating teachers met for 30-minute PLCs to participate in a 15-minute PD session and a 15-minute guided discussion session with their cross-curricular peer. During the PLC sessions, the utilized resources were Google Forms to record the initial teacher survey, PearDeck to document teacher quick writes, and Qualtrics to record the TPS.

Phase 1

In Phase 1, the teachers participated in an initial orientation. During the orientation, the teachers created group norms, completed an initial self-reflection survey, and developed one teacher goal. The norms created by the collaborating teachers were to meet every two weeks, discuss student growth data, discuss research-based strategies, be empowered and empower, and maintain confidentiality.

This orientation served to collect initial data on teachers' current perceptions before beginning the PD sessions. The first data collection was a 16-question self-reflection survey on four topics: 1) Instructional Practices, 2) Collaboration, 3) Building Relationships, and 4) Classroom Management. After completing the survey, the teachers had the opportunity to write one goal. When looking at the survey data and the teacher goals, we determined the topics where teachers felt they needed more PD. After tabulating the survey results and teacher goals, we selected three areas for PD focus. The three chosen areas for PD were: 1) teacher feedback, 2) cross-curricular collaboration, and 3) building relationships with a focus on classroom management.

After the survey and teacher goals were tabulated, the teachers were provided with a copy of their responses. See Appendix A for the self-reflection survey and Appendix B for the first teacher goals quick write.

Phase 2

During the Phase 2 PLC, the teachers were engaged in 30-minute sessions. The 30-minute sessions were divided into two 15-minute blocks. During the first 15 minutes, the teachers participated in a PD that targeted an area of interest tabulated in the initial self-reflection survey. After the PD session, the teachers engaged in a 15-minute guided discussion. During the guided discussion, the two participants collaborated and openly held a discussion guided by the researcher's questions. The researcher participated as an active listener, but no transcriptions of the teacher conversations were collected. The researcher was also part of the teacher conversation as needed and asked guiding questions to follow up on the teacher discussions.

The focus of the first 15-minute PD session was meaningful teacher feedback. For this session, the teachers were provided with a student work exemplar. The exemplar was used to guide the discussion of teacher collaboration. During the discussion, the two teachers analyzed the work sample of student work and were asked to provide one verbal and one written feedback comment to the sample work.

The second 15-minute PD was on cross-curricular collaboration. The PD session was focused on the benefits of cross-curricular collaboration for both students and teachers and on strategies to support the vocabulary acquisition for emergent bilinguals. This strategy session

was developed by using the teachers' goals created during the quick write that showed interest in strategies for vocabulary development. Thus, the PD provided teachers a sample activity both content teachers could use to build academic vocabulary in their discipline. After engaging with the vocabulary activity and practicing, the teachers began their discussion. During the 15-minute discussion session, the teachers were asked to answer the following questions:

1. Discuss what works well when you teach academic vocabulary to your emergent bilinguals.
2. Discuss any modifications you had to make to your teaching in the past three weeks.
3. Share a strategy that you will use in your class to support academic language development.

The teacher discussion was not recorded or transcribed; however, after their discussion, the teachers were given the opportunity to modify their initial goals. See Appendix B for teacher changes in teacher goals.

The last 15-minute PD was on building positive relationships to support classroom management. After the PD session, the teachers were again given the opportunity to engage in a 15-minute guided discussion. The guiding question was: How do you build positive relationships with your students?

Phase 3

Once the PD and collaborative discussion sessions concluded, the researcher emailed the participating teachers a link to a Qualtrics Teacher Perception Survey (TPS). The survey contained 20 questions to gather data about the teacher perceptions and the influencing factors that supported the collaboration. The TPS collected information on four variables of teacher perceptions: 1) purpose, 2) instructional practices, 3) time and compensation, and 4) teacher perceptions. See Appendix C for the TPS items.

Results

To answer the research question—What factors influence successful grade-level cross-curricular collaboration between secondary teachers of emergent bilinguals?—we collected a series of qualitative data, which included a self-reflection survey, two teacher goals quick writes, and a final TPS.

The first data collected were from the teacher's initial self-reflection survey. This survey was provided to the participating teachers during the initial orientation. When analyzing the 16-question self-reflection survey, the researcher was able to identify one notable agreement and two distinguishable disagreements in teacher responses. The first distinguishable agreement in teacher responses was that both teachers disagreed on Q6: "I have regularly scheduled collaboration with cross-content teachers in my same grade level." The two distinguishable disagreements in the teacher results were: 1) Q13: "Classroom management is an issue in my class," in which the ESL teacher agreed that classroom management was an issue while the mathematics teacher strongly disagreed with this statement, and 2) Q16: "I engage students in observable ways during instruction," in which the ESL teacher strongly agreed with this statement and the mathematics teacher disagreed. The teacher goal quick write then served to

collect additional data that stemmed from the self-reflection survey. Both teachers set goals to use more strategies to support their students.

After analyzing the results, the researcher determined the topics for PD that needed more attention. The three chosen topics for PD were: 1) teacher feedback to support student engagement, 2) cross-curricular collaboration to provide teachers with the time to collaborate while they engage in discussions to expand the teacher toolbox of strategies to support emergent bilinguals in their classrooms, and 3) and building relationships to support classroom management.

During the PD session, additional qualitative data were collected in the form of quick writes. During the second PD session on cross-curricular collaboration and vocabulary strategies, the participating teachers revised their initial teacher goals. These data helped determine if the sessions were having any influence on teacher perceptions and the use of strategies they would implement in the classroom. Both teachers' quick-write responses stated they would use "sentence stems" with students.

After the conclusion of the PLCs, a final set of qualitative data was collected. On this occasion, the participating teachers were provided the TPS. When analyzing the 20-question survey, the researcher examined four factors: purpose, instructional practice, time and compensation, and teacher perceptions.

Purpose

On the Purpose section of the TPS, the results showed both teachers strongly agreed with Q1: "During cross-curricular collaboration, I discuss curricular issues", Q2: "During cross-curricular collaboration, I discuss strategies to support emergent bilinguals", and Q3: "When I collaborate with other teachers, I share my knowledge and expertise to solve issues related to emergent bilinguals' teaching and learning." These questions were used to collect data on the effectiveness of teacher discussions held during PLCs. It can be noted that during the collaboration, the teachers discussed curricular issues, strategies to support their students, and shared their knowledge to solve issues related to their students. A minimal disparity in teacher responses was noted in Q5: "Other teachers seek out my expertise during cross-curricular collaboration to solve issues related to the teaching and learning of emergent bilinguals." This disparity did not show a significant difference in teacher responses; however, the result was impactful because both participants questioned how the other teacher sought out their expertise to solve issues related to the teaching and learning of emergent bilinguals.

Instructional Practice

On this section of the TPS, the results showed both teachers strongly agreed with Q6: "Participating in collaborative activities has improved my instructional practice.", Q7: "Cross-curricular collaboration allows me to make decisions that lead to the improvement of my instructional practices to support student learning.", Q9: "Some of my instructional practices have changed based on feedback I have received from the collaborating cross-curricular teams.", and Q10: "Sharing personal teaching practices with cross-curricular colleagues is important to promote student learning." A minimal disparity in teacher responses occurred on Q8: "The discussions held during collaborative cross-curricular learning sessions have impacted my perspective on the needs of emergent bilinguals."

This showed the participating teachers felt the collaborative activities allowed them to improve their instructional practices and change instructional practices based on peer feedback. One significant result from this section was that both teachers strongly agreed sharing personal teaching practices was important to promote student learning. Thus, the data revealed that collaboration may impact teacher perspectives concerning the needs of their students.

Time and Compensation

The results did not show significant disparities in teacher responses for Q11: "Our school provides sufficient time for cross-curricular collaboration.", Q12: "The allocation of compensatory resources would influence my participation in cross-curricular planning.", Q13: "The time allotted for teachers to collaborate across disciplines is sufficient for planning and aligning which strategies benefit emergent bilinguals.", Q14: "Sufficient time for dialoguing among teachers is offered during the cross-curricular collaboration learning sessions.", and Q15: "The frequency of collaborative cross-curricular learning sessions has helped me improve my instructional practices to support emergent bilinguals." The data showed the ESL teacher strongly agreed with all the statements, while the mathematics teacher agreed with all the statements in this section of the survey. Thus, the results showed the teachers perceived that the school provided sufficient time for collaboration and dialogue, compensation might influence the teacher's participation, and the frequency of the meetings helped the teachers improve the instructional practices. Since there were no statements in which the teachers were in full agreement, this area might need more investigation and emphasis for future sessions.

Teacher Perceptions

Both participating teachers strongly agreed with Q16: "The group norms developed by the collaborating team promote teacher collaboration.", Q18: "I believe that cross-curricular collaboration should be based on student data.", Q19: "I believe that cross-curricular collaboration should focus on strategies.", and Q20: "After collaborating across disciplines, I seek other teachers' expertise to help me solve issues related to emergent bilinguals' teaching and learning." There was one distinguishable difference in teacher perceptions: Q17: "The resources provided during the learning session help improve my instructional practices." It is important to note that, except for professional development sessions on the topics of interest, the PD session resources were minimal. This could have been an influencing factor in this disparity.

When asked to share their collaborative experiences, the ESL teacher shared that she enjoyed collaborating with the mathematics teacher and gaining insight into their shared emergent bilinguals' strengths and weaknesses. This teacher added that their "students had made great progress since the beginning of the school year." Similarly, the mathematics teacher shared that it was a great experience to work with her cross-curricular peer. This teacher added that they were "able to integrate instruction to empower students to achieve higher levels of critical thinking during collaboration."

Overall, the results showed that norm development, focus on student data, strategies to support the students, and their peer's expertise can influence teacher collaboration.

Discussion

Davidson (2006) stated teacher dispositions can differ considerably, depending on the type of collaboration. Thus, to support gradual teacher collaboration, this action research was implemented through a phased model. As a result of the surveys and teacher goal quick writes, evidence suggested that considering teacher interest supports a positive reception to the collaborative practices.

Using teacher self-reflection to determine areas for PD can help teachers feel engaged in the development sessions. Teachers sometimes felt they were overworked and providing a time and space for short collaborative sessions could dramatically impact their perceptions and collaborative practices. This was noted in the TPS results.

For the “Purpose” section of the survey, the participating teachers felt collaborative activities improved their instructional practices. For the “Instructional Practice” section of the survey, evidence indicated teachers changed instructional practices based on peer feedback. For the “Time and Compensation” section of the survey, evidence suggested that providing sufficient time for dialoguing helped the teachers improve instructional practices. For the “Teacher Perceptions” section of the survey, evidence showed the way teachers feel during collaboration may help them seek help from other teachers to support their students.

Thus, this research can conclude some factors that might influence teacher collaboration are the time provided for collaboration, how the teachers feel about sharing their knowledge, and how teachers perceive their collaboration can improve their teaching practices. One hindering factor can be how teachers feel other teachers perceive their expertise related to cross-curricular collaboration.

As in Andersen and Krogh’s (2010) study, the participating teachers in this study expressed positive attitudes towards one or more kinds of cross-curricular collaboration. Thus, the results did not show a grave disparity in teacher perceptions. The data showed the participating teachers felt the collaborative activities improved their instructional practices, allowed them to make decisions to improve their instructional practices, and supported them in changing instructional practices based on peer feedback. One significant outcome from the TPS was teachers felt that sharing personal teaching practices is important to promote student learning. Providing sufficient time for collaboration and teacher dialogue can influence teacher perceptions in how they feel the collaborative activities have supported their teaching practices.

Thus, it can be determined teacher perceptions regarding collaborative practices are influencing factors that can support or hinder teacher collaboration. Providing professional development on teacher topics of interest and allowing time for guided discussions can be driving factors to promote discussions leading to changes in teacher perceptions regarding the practicality of the collaborative sessions to improve their instructional practices.

Implications

All research studies have limitations, and this study was no exception. This study's scale was too small to make definitive determinations about teacher cross-curricular collaboration at the secondary level. Because the teachers created their own norms, used their own student data, and were exposed to limited strategies to support emergent bilinguals based on their area of interest, the results might vary significantly with a different teacher or

student populations. Also the factors that promote teacher collaboration could change depending on the teachers' attitudes and perceptions regarding the collaborative experiences.

Overall, the results showed that providing an environment where teachers feel they can seek help from other teachers, developing meeting norms, focusing on student data and strategies to support emergent bilinguals can influence teacher collaboration. Thus, based on the data collected from this action research, it would be ideal to extend this study to a larger teacher population to note how the phased model and teacher perceptions vary. It would be especially important how the results vary when analyzed from the perspective of multiple secondary teachers from different grade levels and subjects. A larger-scale study could show more impactful results to make clear determinations about the factors that influence effective teacher collaboration.

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Appendix A
Self-Reflection Survey

Survey Questions	ESL Teacher	Mathematics Teacher
Instructional Practices		
Q1: Instructional Practices [I am aware of teaching strategies that will benefit ELs in my class.]	Agree	Agree
Q2: Instructional Practices [I feel comfortable implementing the use of technology in my class.]	Strongly Agree	Agree
Q3: Instructional Practices [I can adapt the materials in my class without oversimplifying the concepts.]	Agree	Agree
Q4: Instructional Practices [My lessons are consistently aligned with learning targets.]	Strongly Agree	Agree
Collaboration		
Q5: Collaboration [I have regularly scheduled collaboration with my grade level PLC.]	Strongly Agree	Strongly Agree
Q6: Collaboration [I have regularly scheduled collaboration with cross content teachers in my same grade level.]	Disagree	Disagree
Q7: Collaboration [My collaborative team has a clearly defined structure with defined functions.]	Strongly Agree	Agree
Building Relationships		
Q8: Building Relationships [I am skilled at addressing the needs of students with limited English proficiency.]	Strongly Agree	Agree
Q9: Building Relationships [I am skilled at addressing the needs of students with limited English proficiency.]	Strongly Agree	Agree
Q11: Building Relationships [The relationships I build with my EL students help their ability to learn.]	Strongly Agree	Agree
Q12: Building Relationships [The relationships I build with my EL students help their ability to learn.]	Strongly Agree	Agree
Classroom Management		
Q13: Classroom Management [Classroom management is an issue in my class.]	Agree	Strongly Disagree
Q14: Classroom Management [I make the norms and expectations of my classroom clear and explicit for emergent bilinguals.]	Agree	Agree
Q15: Classroom Management [I engage students in observable ways during instruction.]	Strongly Agree	Agree
Q16: Classroom Management [I engage students in observable ways during instruction.]	Strongly Agree	Disagree

Appendix B
Teacher Goals – Quick Writes

Bold text indicates the revisions made in the teacher goals quick writes.

First Teacher Goals – Quick Write Changes

ESL Teacher “I will research and apply various **strategies** that help improve the **vocabulary** and **reading** comprehension of my students.”

Mathematics Teacher “Get to **know** each **student** and find **specific strategies** to better assist EL learners. (targeted instruction).”

Second Teacher Goals – Quick Write Changes

ESL Teacher “I will use **sentence stems** to boost vocabulary acquisition.”

Mathematics Teacher “Students will use **sentence stems** in order to practice speaking full sentences.”

Appendix C
Qualtrics Teacher Perception Survey (TPS)

Survey Questions	ESL Teacher	Mathematics Teacher
Purpose		
Q1: Purpose [During cross-curricular collaboration, I discuss curricular issues.]	Strongly Agree	Strongly Agree
Q2: Purpose [During cross-curricular collaboration, I discuss strategies to support emergent bilinguals.]	Strongly Agree	Strongly Agree
Q3: Purpose [When I collaborate with other teachers, I share my knowledge and expertise to solve issues related to emergent bilinguals' teaching and learning.]	Agree	Strongly Agree
Q4: Purpose [During cross-curricular collaboration, my colleagues and I mentor and coach each other.]	Agree	Strongly Agree
Q5: Purpose [Other teachers seek out my expertise during cross-curricular collaboration to solve issues related to the teaching and learning emergent bilinguals.]	Neither agree nor disagree	Agree
Instructional Practice		
Q6: Instructional Practice [Participating in collaborative activities has improved my instructional practice.]	Strongly Agree	Strongly Agree
Q7: Instructional Practice [Cross-curricular collaboration allows me to make decisions that lead to the improvement of my instructional practices to support student learning.]	Strongly Agree	Strongly Agree
Q8: Instructional Practice [The discussions held during collaborative cross-curricular learning sessions have impacted my perspective on the needs of emergent bilinguals]	Agree	Strongly Agree
Q9: Instructional Practice [Some of my instructional practices have changed based on feedback I have received from the collaborating cross-curricular teams.]	Strongly Agree	Strongly Agree
Q10: Instructional Practice [Sharing personal teaching practices with cross-curricular colleagues is important to promote student learning.]	Strongly Agree	Strongly Agree
Time and Compensation		
Q11: Time and Compensation [Our school provides sufficient time for cross-curricular collaboration.]	Strongly Agree	Agree
Q12: Time and Compensation [The allocation of compensatory resources would influence my participation in cross-curricular planning.]	Strongly Agree	Agree
Q13: Time and Compensation [The time allotted for teachers to collaborate across disciplines is sufficient for planning and aligning which strategies benefit emergent bilinguals.]	Strongly Agree	Agree

Appendix C
Qualtrics Teacher Perception Survey (TPS)
 (continued)

Q14: Time and Compensation [Sufficient time for dialoguing among teachers is offered during the cross-curricular collaboration learning sessions.]	Strongly Agree	Agree
Q15: Classroom Management [The frequency of collaborative cross-curricular learning sessions has helped me improve my instructional practices to support emergent bilinguals.]	Strongly Agree	Agree
Teacher Perceptions		
Q16: Teacher Perceptions [The group norms developed by the collaborating team promote teacher collaboration.]	Strongly Agree	Strongly Agree
Q17: Teacher Perceptions [The resources provided during the learning session help improve my instructional practices.]	Agree	Strongly Agree
Q18: Teacher Perceptions [I believe that cross-curricular collaboration should be based on student data.]	Strongly Agree	Strongly Agree
Q19: Teacher Perceptions [I believe that cross-curricular collaboration should focus on strategies.]	Strongly Agree	Strongly Agree
Q20: Teacher Perceptions [After collaborating across disciplines, I seek other teachers' expertise to help me solve issues related to emergent bilinguals' teaching and learning.]	Strongly Agree	Strongly Agree

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Erika Macias-Rodríguez received her Masters in Educational Leadership at Texas A&M University-Commerce. She currently works as a 6th grade Math teacher for Mesquite ISD and has a background as a Speech Language Pathologist assistant. Erika focused on working with children of all ages in articulation, expressive and receptive language, stuttering and social communication. She is an advocate for providing equity education for students of all ages, ethnicities, and social economic statuses. She believes every student should have the proper tools and resources to meet their diverse needs.

Christine Lawler is a native Texan. She has just finished her seventh year in teaching and first year working with ESL students. It always amazes her the growth students endure throughout the year. She believes that teaching is more about the process and struggle rather than the final product. It is with the struggle and persistence that students can truly grow and take ownership of their learning.

