ATTACKING THE PROBLEM TOGETHER: LEVERAGING PEER LINGUISTIC SUPPORT TO IMPROVE ADULT ELL WRITING PERFORMANCE

by
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Abstract

Academic writing is a fundamental skill for success in U.S. higher education settings, yet many adult English language learners (ELLs) struggle with this important skill. Prior studies have shown that peer review is an effective intervention for improving adult ELLs’ writing performance while also increasing their self-efficacy for writing and lowering their writing anxiety. However, most of these studies have been conducted with lower proficiency students in English as a Foreign language (EFL) settings, and few studies have included qualitative data to provide insights into the mechanism of change. To fill this gap in the literature, the study found in this dissertation used a mixed methods methodology to examine the effects of a peer review intervention on the writing self-efficacy, writing anxiety, and writing performance of advanced-level adult ELLs (n=8). The study used a convergent parallel design that included pre-posttests of writing anxiety, self-efficacy for writing, and writing performance. The quantitative results indicated that following the intervention participants experienced increased self-efficacy for writing, decreased writing anxiety, and improved writing performance. The qualitative results showed that participants perceived the peer review intervention to be useful for improving their writing performance and feelings about writing. The study data supported the conclusion that peer review can be an effective and efficient pedagogical intervention for improving adult ELLs’ academic writing by helping them become more autonomous academic writers. One key implication of the study is that peer review is a flexible intervention that can be integrated with existing program curricula. However, students need additional support limiting the focus and quantity of the feedback that they provide their peers.

*Keywords*: ESL, ELL, Academic writing, writing anxiety, writing self-efficacy
Dedication

This dissertation is dedicated to all the teachers upon whose shoulders this work was built, including all my students who taught me courage, and my family who taught me service and perseverance.
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I would like to thank Dr. Rogers Walker, Sr., Barbara Walker, and Cara Walker for their steadfast support and encouragement during my doctoral studies. This dissertation would never have been possible without their support. I also would like to acknowledge Mwenzi Walker and Zuri Walker for their loyalty and inspiration while I was writing this dissertation. Deep gratitude is also due to Dayton Hughes, who always encouraged me to keep moving forward with positivity. Additionally, I would like to thank all the many transformative teachers who made this work possible, including Myrna Blackmon, Dr. Joe Keenan, Eddie Wilson, and Dr. Howard Williams. Also, thank you to Patricia Szasz for her support and advice for completing program milestones. Gratitude is also due to the kind library staff at Middlebury Institute who helped create a comfortable home away from how for my research and studies. I would like to thank Dr. Marcia Davis, Dr. Yolanda Abel, and Dr. Lindsay Vecchio for their ongoing guidance and support and for helping me produce high-quality products. Lastly, thank you again to Dr. Lindsay Vecchio for supporting my intellectual development and for maintaining my morale with her good humor and encouragement. Finally, thank you to the students who contributed their thoughts to this dissertation. The title of the dissertation is taken from a student’s description of peer writing.
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Executive Summary

Mastering academic writing is a challenging undertaking for adult English language learners (ELLs). This endeavor requires successful navigation of complex cognitive, emotional, and social factors. As a result, many ELLs struggle to master this essential skill. Academic writing serves as a critical tool for success in U.S. postsecondary schools as well as in the global workforce (Crossman, 2018; French, 2018; Ruth, 2008;). In addition, adult English language learners continue to comprise an important segment of the student body at U.S. postsecondary schools (Institute for International Education, 2020). This dissertation explored factors related to achievement challenges that adult ELLs face while learning academic writing. In particular, the study considered the role that second language writing anxiety, self-efficacy for writing, and writing knowledge play in the acquisition of academic writing skills. Moreover, the dissertation implemented a peer review for academic writing intervention as a treatment to improve adult ELLs’ writing performance and their emotions related to academic writing.

Problem of Practice

This dissertation addressed the problem of low academic writing achievement among international adult ELLs studying in U.S. postsecondary institutions. Studies have consistently shown that difficulties with academic English can result in numerous downstream consequences for ELLs, including lower GPAs (Roessingh & Douglas, 2012), delays to degree completion (Hodara, 2015), lower earnings (Chiswick & Miller, 2010), and decreased competitiveness in the global workforce (Wang et al., 2017). Academic writing is one important facet of academic English that is a vital component of success in postsecondary education and beyond. Academic writing is an especially important skill because academic text composition is the primary means of communication and assessment across a broad spectrum of disciplines in U.S. higher
This is an indispensable skill for the many international ELLs who are pursuing degrees in the U.S. each year. The number of international students studying in U.S institutions has steadily grown over the last decade (Institute for International Education, 2020). This dissertation aimed to examine the factors that contribute to difficulties with academic writing for adult ELLs in U.S. postsecondary institutions. In addition, the dissertation tested a peer review writing intervention to help improve academic writing achievement for these students.

Factors Related to the Problem of Practice

A review of the literature identified several factors that commonly contribute to difficulties with academic writing for adult ELLs. Each of these factors were examined through the theoretical lens of ecological systems theory (EST) (Bronfenbrenner & Morris, 2006). This theory explains how development transpires through social interactions that are situated in multiple, interconnected social contexts. In addition, the theory describes ways in which personal factors influence social interactions and the surrounding social environment. The primary social contexts examined in this dissertation included the online language learning classroom as well as online peer dyads. Learners’ personal characteristics can influence the effectiveness of their interactions within different learning contexts as they attempt to master the principles and practices of academic writing (Bronfenbrenner, 1977; Bronfenbrenner & Morris, 2006).

Several important personal characteristics were identified as factors that could influence academic writing achievement for ELLs. First, prior struggles with learning English is a common personal characteristic that affects many ELLs. These struggles are often induced by overly ridged, or prescriptive, approaches to English instruction (Dornyei, 1990; Lee, 2013; Spack, 1997, Teimouri, 2018). Secondly, these negative prior experiences can lead to knowledge gaps
and challenges with emotions related to writing in English (Lee, 2013; Spack, 1997). In fact, researchers consistently have found that gaps in writing knowledge can result in low self-efficacy for writing and high writing anxiety, which, in turn, can lead to subpar writing performance (Pajares & Johnson, 1996; Phakiti et al., 2013; Woodrow, 2006a). For instance, Pajares & Johnson (1996) observed a complex interaction among writing knowledge, self-efficacy, writing anxiety, and writing performance. The authors found that as writing knowledge increased, self-efficacy increased and writing anxiety decreased, which resulted in significant improvements to writing performance (Pajares & Johnson, 1996). Additional studies conducted with adult ELLs have found similar interactions between writing anxiety, self-efficacy for writing, and writing performance measures (Phakiti et al., 2013; Woodrow, 2006a; Zabihi, 2018). As a result, self-efficacy, writing anxiety, and writing performance were key factors that were investigated in this dissertation.

**Needs Assessment Study Context and Key Findings**

The author conducted a needs assessment study to better understand the role that personal characteristics play in the academic writing difficulties of postsecondary ELLs. The needs assessment study context was the intensive English as a second language (ESL) program at the Middlebury Institute of International Studies (MIIS), which is a small graduate school in central California. International students comprise approximately a third of the student body at MIIS. The ESL program at MIIS prepares ELLs for academic success at the graduate school and other higher education institutions. The needs assessment was conducted during the summer of 2018. The study sample included 14 adult international ELLs. Most participants were from east Asian countries.
The needs assessment was a quantitative study that involved administration of Cheng’s (2004) Second Language Writing Anxiety Inventory (SLWAI), which is a 22-item Likert-scale survey instrument. The survey consists of an overall measurement of writing anxiety as well as subscale measurements for somatic anxiety, avoidance behavior, and cognitive anxiety. The survey uses a Likert scale of 1-5, with a score of five representing the highest possible level of anxiety. After the data collection, the survey results were analyzed in SPSS using basic descriptive statistics. The results indicated that participants experienced moderate levels of writing anxiety. Specifically, the SLWAI mean composite score was 2.91 while the somatic anxiety, avoidance behavior, and cognitive anxiety subscale scores were 2.83, 3.09, and 2.83, respectively. Furthermore, several individual participants reported much higher than average scores on the SLWAI, indicating that certain students struggled greatly with writing anxiety. Lastly, participants’ responses to several survey items showed that participants experienced greater anxiety related to certain aspects of academic writing, such as being evaluated for their writing. These findings provided evidence that second language writing anxiety was an important factor that needed to be addressed to improve academic writing outcomes for ELLs in the study context.

**Theoretical Framework**

Ecological systems theory (EST) served as the theoretical lens for examining the challenges that adult ELLs face when acquiring academic writing skills (Bronfenbrenner, 1977; Bronfenbrenner & Morris, 2006). According to Bronfenbrenner and Morris (2006), human development transpires through interactions, or *proximal processes*, that individuals engage in within various learning contexts. In addition, each learner possesses certain *personal characteristics*, such as knowledge/aptitude and emotions that can influence the scope and
trajectory of development (Bronfenbrenner & Morris, 2006). As learners interact with others and their environment, these learners adapt to the environment and, in doing so, change the learning environment (Bronfenbrenner, 1977). EST helped elucidate the manner in which personal characteristics shape the trajectory of development, and the theory helped explain how learners’ interactions could improve the learning environment. As a result, EST illuminated how supportive peer interactions helped learners to create oral and written linguistic scaffolding for their academic writing development. This enriched linguistic environment mitigated the negative effects of limiting personal characteristics.

EST also was used to construct the conceptual framework for challenges learning academic English writing. This conceptual framework illustrated the ways in which negative prior language learning experiences could influence personal characteristics, including writing anxiety, low self-efficacy for writing, and gaps in academic writing knowledge. Furthermore, the conceptual framework highlighted how interactions in language learning contexts could influence personal characteristics, which, in turn, could either promote or hinder academic writing performance and writing achievement. This conceptual framework guided a search for interventions that could promote optimal interactions in learning contexts and support academic writing development.

**Potential Interventions**

Three types of interventions were considered to treat the problem of low academic writing achievement among adult ELLs. First, collaborative writing was considered as an intervention. Collaborative writing involves having groups of students work together to jointly compose and revise one or more texts (Dobao, 2012; Shehadeh, 2011). Studies have shown that collaborative writing interventions can help learners produce more complex and accurate texts
while decreasing anxiety and increasing self-efficacy for writing in English (Cho & Lim, 2017; Dobao, 2012; Jiang, 2015). Second, mindfulness-based stress reduction interventions were reviewed for their appropriateness as an intervention. Mindfulness, which is rooted in ancient Buddhism, is focused on developing awareness and acceptance of one’s embodied existence in the present moment (Britt et al., 2018; Fallah, 2017). Numerous studies using psychometric and biological measures have found that mindfulness interventions, such as focused breathing, can result in significant decreases in symptoms of anxiety for postsecondary students and improvement in academic writing (Britt et al., 2018; Pascoe et al., 2017; Yusuf et al., 2018).

The third intervention considered was peer review for academic writing. Peer review involves having students provide feedback on each other’s writing prior to text revision (Jahin, 2012). The author identified five studies which showed that peer review was an effective intervention for decreasing writing anxiety, improving writing self-efficacy, and improving writing performance among adult ELLs (Choi, 2013; Iksan & Halim, 2018; Jahin, 2012; Kurt & Atay, 2007; Yastibaş & Yastibaş, 2015). Each of these studies used Cheng’s (2004) SLWAI to measure pre-post levels of writing anxiety; this was the same instrument used in the needs assessment for the dissertation. Furthermore, studies indicated that peer review was associated with impressive improvements to the quality of students’ writing (Choi, 2013; Kurt & Atay, 2007). Peer review was selected as an intervention because it could be integrated easily with existing course curricula and peer review had the most extensive proof of efficacy in similar contexts.

**Intervention Study**

The aim of the intervention study was to explore whether peer review was an effective treatment to improve writing performance, increase self-efficacy for writing, and decrease writing anxiety for adult ELL students. In addition, the study investigated participants’
perception of the efficacy of peer review for their emotional and cognitive development as academic writers.

Research Questions

The following eight research questions guided the evaluation of the intervention study:

**RQ 1**: Did the intervention include two practice peer review sessions and four actual peer review sessions that incorporated all of the planned activities?

**RQ 2**: Did participants fully complete all of the delivered peer review activities?

**RQ 3**: What was the level of quality of the teacher-led peer review activities?

**RQ 4**: What was the level of student participation in the peer review feedback discussions?

**RQ 5**: Which component(s) of the intervention do participants view as essential for decreasing writing anxiety?

**RQ 6**: To what extent did students’ experience of writing anxiety change after participating in the peer review writing intervention, and what was the nature of the change?

**RQ 7**: To what extent did students’ experience of self-efficacy for writing change after participating in the peer review writing intervention, and what was the nature of the change?

**RQ 8**: To what extent did the intervention contribute to improvement in students’ writing performance, and to what extent did students perceive this change as related to the intervention?
Research Design

This was a quasi-experimental mixed methods study that also included a pre-posttest design (Creswell & Plano Clark, 2018; Shadish et al., 2002). In addition, a convergent-parallel design was used for the study (Creswell & Plano Clark, 2018). The quantitative data collection involved a pre-posttest of Cheng’s (2004) SLWAI and Bruning et al.’s (2013) Self Efficacy for Writing Scale (SEWS). Study participants also completed a pre-posttest of a Writing Performance Test that was created by the author. The process evaluation components of the study also included the following quantitative measures: an Intervention Activity Log, a Student Observation Protocol, and a Teacher Observation Protocol. The qualitative data collection involved pre- and post-intervention interviews with a subset of participants. Additionally, course artifacts, such as student texts, were collected, and the researcher maintained a research diary. During the intervention, students participated in two practice peer review sessions and three cycles of peer review activities, each of which included text composition, peer and teacher feedback, and text revision. The intervention and data collection occurred over the course of approximately 12 weeks from September 24 to December 11, 2020.

Data Analysis

Following the intervention, the researcher analyzed the qualitative and quantitative data separately prior to analyzing the mixed methods data. The quantitative data analysis consisted of basic descriptive statistics in addition to inferential statistics that included a comparison of means test and a test of association (Lochmiller & Lester, 2017). The pre-posttest results of the two surveys were analyzed using basic descriptive statistics as well as the Pearson correlation coefficients test. The Writing Performance Test was analyzed with descriptive statistics and the non-parametric Wilcoxon-Signed Rank test. Furthermore, the process evaluation measures were
analyzed using basic descriptive statistics. The qualitative interview data were analyzed using conventional content coding that employed an iterative, inductive coding process (Hsieh & Shannon, 2005; Miles et al., 2020). Lastly, text excerpts from student essays and the researcher’s diary were used to illustrate and provide additional context for the qualitative data themes.

Findings

The intervention study results indicated that participants experienced improvement in their academic writing skills and their emotions related to writing in English. Specifically, the descriptive statistics showed that participants’ writing anxiety decreased and their self-efficacy for writing increased following the intervention. In addition, scores on the Writing Performance test showed that participants’ academic writing skills improved after the intervention. Their scores on the Writing Performance Test increased from a pre-intervention mean of 14.31 (n=8, SD= 2.03) to a post-intervention mean of 19.44 (n=8, SD= 1.61), and the increase was significant (z= -2.52; p= .012). The process evaluation results indicated that there was a moderate level of implementation fidelity (Rossi et al., 2019). In addition, the study included high levels of participant responsiveness and quality of delivery, and participants completed an exceptionally high number of the intervention activities (Dusenbury et al., 2003; Rossi et al., 2019). The qualitative findings provided triangulation and confirmation of the quantitative results (Lochmiller & Lester, 2017). The qualitative themes highlighted ways that peer collaboration contributed to development of participants’ linguistic knowledge, which supported increases in their confidence and decreases in anxiety. Moreover, the course artifacts revealed ways that participants exercised agency and independence to critically evaluate and implement feedback from their peers and teacher. The study findings confirmed the efficacy of peer review as an intervention to improve academic writing outcomes for adult ELLs. Lastly, the study was
noteworthy because it showed that learners could actively negotiate and resolve text issues, which helped them become more critical, autonomous academic writers.
Chapter 1

Achievement Challenges: A Review of the Literature

English language learners (ELLs) who aim to succeed in U.S. institutions of higher education must develop a strong command of academic English and related social skills. As Scarcella (2003) argues, “Learning academic English is probably one of the surest, most reliable ways of attaining socioeconomic success in the United States today. Learners cannot function in school settings effectively without it” (p. 1). Despite this need, research indicates that academic English is a uniquely challenging form of English that many adult ELLs struggle to master (Cummins 1979, 1981; Gibbons 1998; Scarcella, 2003; Schleppegrell, 2001). While it has long been clear that ELLs require a strong foundation in academic English to succeed in postsecondary education institutions in the U.S., Canada, and Australia, researchers’ understanding of the nature of academic English has evolved over that last four decades. For instance, Cummins’s (1979; 1981) early conceptualization of academic English focused on the cognitive and discourse differences between academic and general, conversational English. Cummins (1979) argued that academic English required more cognitively demanding processes and was marked by language that was more abstract and less context dependent. Developing this reasoning further, Cummins (1981) claimed that conversational English, or basic interpersonal communicative skills (BICS), relied on contextual clues in the immediate environment of speakers while academic English, or cognitive/academic language proficiency (CALP) required higher-order cognitive processes and was generally decontextualized. Subsequent work by Schleppegrell (2001) and Aukerman (2007) called into question the validity of the BICS/CALP dichotomy. Despite these critiques, the distinction between conversational language and academic language has continued to be significant in the field of ELL. In fact, the BICS/CALP
distinction is commonly referenced in the field of ELL instruction, and this paradigm continues to inform aspects of instruction and curriculum design.

While Cummins (1979, 1981) focused on the cognitive complexity of various types of English, later authors defined academic English as a specific register used in school settings. This context-specific register is marked by linguistic features that distinguished it from English used in other contexts (Gee 2008; Gibbons, 1998; Scarcella, 2003; Schleppegrell, 2001). For instance, in a corpus linguistics study that compared academic versus non-academic texts of primary and secondary school children, Schleppegrell (2001) identified several important features of academic texts, including lexical density, nominalization, and complex clause joining techniques. Lexical density refers to the number of words per sentence and the use of lower frequency academic words. Nominalization involves the use of noun phrases at the beginning of sentences in order to foreground key terms and concepts (e.g. this sentence). The clause joining techniques that Schleppegrell referred to primarily included the use of relative clauses and subordinate clauses. Other researchers have included non-linguistic considerations, such as social norms and power dynamics, in their examinations of the nature of academic English (Canagarajah & Matsumoto, 2017; Lea & Street, 1998; Morton et al., 2015; Spack, 1997).

**Motivation for Studying English**

A significant number of international students seek admission to U.S. institutions of higher education each year, but many of these students have not yet developed the English language skills necessary to fully support their success in postsecondary institutions (Institute for International Education, 2017). As a result, many international students need additional English support prior to and during their matriculation in U.S. higher education institutions. This dissertation will focus on students who are studying in the English for Academic and
Professional Purposes (EAPP) program at Middlebury Institute of International Studies (MIIS). The purpose of this program is to help students develop advanced oral and written skills in English. The courses in the EAPP program are intended to provide linguistic scaffolding for students’ degree coursework. For instance, in the EAPP writing courses, students use peer review activities to help them improve the papers that they write for their degree program courses. All international ELL students at MIIS are required to complete eight credits, or two courses, of academic English in the EAPP program. As a result, students are motivated to attend the EAPP program courses for several reasons, including obtaining degree credits and advancing their mastery of spoken and written English.

A degree from a U.S. university is a valuable form of cultural capital that international students are motivated to obtain (Wink, 2011). Research on international students’ motivations for studying in U.S. postsecondary institutions reveals that professional goals and economic advancement are the primary motivators for students studying in the U.S. (Hazen & Alberts, 2006; Urban & Palmer, 2016; Zhou, 2015). The social and financial advantages in the U.S. and abroad of obtaining a U.S. degree helps explain the strong motivation that international students have to gain entry to U.S. colleges and universities. Research indicates that earning a bachelor’s degree or higher is associated with higher earnings and other positive quantitative and qualitative life outcomes both in the U.S. and abroad (Carnevale et al., 2011; Hu & Hibel, 2014; Ma et al., 2016). The largest percentage of students in the EAPP program are Chinese nationals, and research indicates that holding a bachelor’s degree in China also is associated with higher earnings (Hu & Hibel, 2014).

An individuals’ attainment of advanced levels of English language proficiency is also associated with higher earnings both in the U.S. and abroad. Several studies have shown a direct
correlation between level of English proficiency and increases in wage earnings in the U.S. and other global economies (Chiswick & Miller, 1995, 2010; Gonzalez, 2000; Wang et al., 2017).

For instance, Chiswick and Miller (2010) analyzed U.S. census data on the English requirements of U.S. jobs and found a high positive correlation ($r=.92$) between the level of English required for the job and the earnings. In fact, the authors concluded that an increase of one standard deviation in English proficiency resulted in 19.7% higher earnings for foreign born workers, which was also equivalent to six additional years of additional education. In an earlier study based on U.S. census data, Chiswick (1995) concluded that for foreign-born U.S. immigrants, English fluency was associated with an increase in earnings of 16.9%. Gonzales (2000) also found that proficiency level in all of the four English skills (reading, writing, listening, and speaking) was positively correlated with higher earnings. Gonzales concluded that being highly proficient in English was associated with an average increase of 24% in earnings. Thus, studies indicate that higher levels of English proficiency provide an important advantage for achieving higher earnings in the U.S. workforce. Since most students in the EAPP program are Chinese nationals, it is useful to consider the economic impact of English proficiency in mainland China (Institute for International Education, 2017). In a nationally representative longitudinal survey study that examined Chinese employees’ English levels and earnings, Wang et al. (2017) found that respondents’ self-reported English proficiency level was positively correlated with higher earnings. Thus, the ability to communicate in English at an advanced level is associated with attractive economic outcomes for workers in the U.S., China, and other nations.

The EAPP program is structured to facilitate successful degree completion at MIIS and development of advanced English proficiency. The program consists of two levels of courses: 300-level and 400-level. Prior to matriculation at MIIS, all ELL students take a written English
proficiency exam. This is a criterion-referenced exam that is used to place students in the EAPP program courses. Based on the results of the test, students can either waive out of taking English classes, or they can place in the 300-level or 400-level of the program. Each level consists of one oral skill focused course and one written skill focused course. The dissertation study focuses on the 300-level Editing Writing course. The overarching objective of the 300-level Editing Writing skills course is to help students become autonomous writers and revisers of their own texts, enabling them to proceed to 400-level coursework in the program.

**Problem of Practice**

Acquiring advanced levels of academic and general English proficiency is important for success in U.S. higher education institutions and in English-medium higher education institutions abroad. For instance, several studies have found modest to high correlations between ELLs’ level of English proficiency and their performance in English-medium colleges and universities (Caplan & Stevens, 2017; Phakiti et al., 2013). Moreover, researchers have observed modest predictive validity for the TOEFL test and college GPAs (Cho & Bridgeman, 2012; Ginther & Yan, 2018). For instance, Ginther and Yan (2018), found that TOEFL scores predicted up to 15% variance in GPAs for the three cohorts of undergraduate international students. Attending an academic English program is one effective method for students to prepare to succeed in U.S. higher education contexts. In a study of an academic English program at the University of Delaware, Caplan and Stevens (2017) found that students who attended the university’s ELL program achieved higher GPAs than directly admitted international students during the students’ first year of study. However, not all international students who matriculate in postsecondary institutions possess the English proficiency levels needed to thrive during their studies.
Many ELLs struggle with the English language demands of English-medium postsecondary institutions. In fact, numerous studies indicate that ELLs struggle with all of the traditional four language skills: Reading, writing, listening, and speaking. Each of these skills is necessary for success in higher education, and studies have shown that ELLs struggle with achievement related to each of these modalities of academic English (Chen & Lin, 2009; Woodrow, 2006a; Zin & Rafik-Galea, 2010). Moreover, researchers argue that academic English writing is especially important for ELL students because it serves as the primary medium for assessment across many academic disciplines (Crossman, 2018; Ruth, 2008; French, 2018). Thus, student difficulties with English skills in general and academic writing in particular can serve as important barriers to degree completion and acquisition of advanced English proficiency.

Inadequate levels of English proficiency can interfere with ELLs’ ability to succeed in U.S. postsecondary contexts in two significant ways: insufficient mastery of academic English can significantly delay students’ degree completion, and it can result in lower GPAs (Hodara, 2015; Roessingh & Douglas, 2012). Not surprisingly, evidence of these difficulties is also present in the degree programs at MIIS. International ELL students often struggle with oral and written English communication, which can interfere with on-time degree completion. In the spring of 2020, the researcher conducted an informal pilot needs assessment survey of faculty at MIIS. The survey included open-ended questions about the skills that students struggle with most in their graduate studies at MIIS (Lochmiller & Lester, 2017). One important theme for faculty was that students struggled to critically examine texts and express their ideas clearly in written English. For instance, one professor mentioned students’ “Unwillingness to admit that they…need help with written and verbal English, particularly grammar.” Another professor
commented that “many of the specific challenges [students face] have to do with sentence structure, increasing lexical variety, and specific grammar concerns.” These examples from the pilot needs assessment survey indicate that graduate students at MIIS continue to need support with refining their written expression in English. As the subsequent sections will illustrate, improving one’s academic writing abilities involves a complex interaction between the developing student and the learning environment (Bronfenbrenner & Morris, 2006).

**Theoretical Framework**

Language learning is an inherently complex cognitive and social phenomenon that requires the successful navigation of personal and environmental factors. Bronfenbrenner and Morris’s (2006) ecological systems theory (EST) provides a useful theoretical framework for understanding the ways that personal factors and the learning environment interact over time to influence second language development. This literature review uses EST to examine how these interactions contribute to students’ difficulties mastering academic writing.

Ecological systems theory helps researchers understand the ways that learners’ interactions in their learning environment contribute to their learning trajectory over time. Bronfenbrenner (1977) developed this theory in the 1970s as a reaction against laboratory research that failed to consider the importance of time and the learners’ natural learning context. As a result, Bronfenbrenner and Morris (2006) later challenged researchers to study “development in its ecological context; that is, in the actual environments in which human beings live their lives” (p. 794). Bronfenbrenner’s (1977) EST, focused primarily on the relationship between the learner and the learning environment. In this model, learning involved reciprocal interactions between the learner and aspects of the environment over time that resulted in mutual adaptation. In other words, actions that the learners take can influence the nature of the
environment, and characteristics of the environment can equally shape the development of the individual learner. In the earliest versions of the theory, Bronfenbrenner (1977) chose to focus on the learner’s development within a nested system of environments that influence development.

The early version of EST posited the existence of four nested environmental systems. Each of these systems contained aspects of the physical and social environment that directly influenced the development of the learner. The center of this nested system is the microsystem. The microsystem refers to the set of activities and interactions that occur in the immediate environment of the developing learner (Bronfenbrenner, 1977). For example, learning tasks and interactions among peers in an ELL classroom constitute a microsystem. The next EST system is the mesosystem. Mesosystems refer to connections between two or more different settings that directly include the learner (Bronfenbrenner, 1977). A mesosystem is essentially a collection of two or more microsystems. An example of a mesosystem is the linkage between the ELL classroom and an after-school peer study group involving the learner. Both of these contexts include the learner, and each context is connected through the common enterprise of language learning. Another system is the exosystem. The exosystem is an aspect of the environment that does not immediately include the learner, but it directly influences the learner in an important way (Bronfenbrenner, 1977). The exosystem can influence or even circumscribe interactions that the learner engages in. For instance, an academic department might act as an exosystem since the department makes policies that affect the curriculum that the ELL learner interacts with. The final aspect of Bronfenbrenner’s (1977) theory is the macrosystem. The macrosystem refers to the broader social and cultural patterns that might influence the learner’s development. These patterns might include intangible values, beliefs, and attitudes that affect the learner. In the case of ELL learners, U.S. society and many international contexts place a high value on the ability to
speak English. These are macrosystem values that influence ELL learners’ motivation to learn English and their self-perception as learners. In later versions of EST, Bronfenbrenner (1994) added time, or the chronosystem, as an element of development. According to Bronfenbrenner, it is important to consider time in learning because all learning transpires over the course of extended periods of time. In addition, Bronfenbrenner (1994) and Bronfenbrenner and Morris (2006) later shifted the focus of EST from a strict focus on the environment to focusing more on the personal characteristics and interactions of learners that spurred development.

The revised version of ecological systems theory is useful for understanding the manner in which student interactions in learning environments can either promote or hinder language development. Bronfenbrenner and Morris (2006) argue that development involves a dynamic, bi-directional interaction between the person and the environment over time. The authors’ framework incorporates the previously described nested systems. In addition, Bronfenbrenner and Morris (2006) recharacterized development as involving “four principle components and the dynamic, interactive relationships among them” (p. 795). These components consist of the following: proximal processes, person, contexts, and time. The effect of this recharacterization is to focus more on the interactions that drive development and the personal characteristics that influence these interactions as they unfold in specific environments over time. Each component of the bioecological model of development helps explain aspects of learning academic English in formal classroom settings.

Proximal processes form the core component of the bioecological model. According to Bronfenbrenner and Morris (2006), proximal processes are the most important means for moving human development forward. Proximal processes are “enduring forms of interaction in the immediate environment” (Bronfenbrenner, 1994, p. 1644). Furthermore, these patterns of
interaction must occur regularly over time and result in increasingly complex interactions between the learner and entities in their environment, such as linguistic input, teachers, and peers. For instance, in an ELL classroom, learners’ efforts to jointly negotiate communication difficulties would constitute an important proximal process (Long, 1996). Importantly, Bronfenbrenner and Morris (2006) present evidence that proximal processes are the most effective means for mitigating the hindering effects of environment and personal characteristics. For instance, the authors reference studies in which maternal nurturing of two-year-old children resulted in a moderating effect on later problem behaviors linked to the environmental effects of low SES and the personal characteristics of low birthweight.

Personal characteristics are another important component of EST. These characteristics differentiate individuals within specific Microsystems and influence their development. Bronfenbrenner and Morris (2006) argue that three individuals characteristics can influence the strength of proximal processes and the effectiveness of these processes. First, individual dispositions, such as emotional tendencies, can affect how learners engage in proximal processes in their learning environments (Bronfenbrenner & Morris, 2006). As discussed in the conceptual framework section below, emotions such as self-efficacy and anxiety powerfully influence learners’ development of academic English proficiency. Second, individual intellectual resources, including knowledge and skill, act to differentiate learners within their learning environments (Bronfenbrenner & Morris, 2006). For instance, knowledge of English can influence how effectively peers are able to interact during group learning tasks. In the situation of learning academic English, a learner with greater linguistic resources can help repair communication breakdowns that occur during pair work. Last, demand characteristics are more stable characteristics of learners, such as race or nationality, that serve to elicit responses from
others that either promote or damage proximal processes (Bronfenbrenner & Morris, 2006). For example, a Taiwanese student who is paired with a mainland Chinese student might elicit a frosty response during peer work that could hinder beneficial interaction in English.

The remaining two components of the bioecological model, context and time, help define the evolving situation of development. Bronfenbrenner and Morris (2006) claim that development consists of both stability and change in biology and psychology over a person’s lifetime. These stages of stasis and change transpire within the nested systems of near and distant social environments. The context for development includes each of the previously mentioned environmental systems: the microsystem, mesosystem, exosystem, and macrosystem. Bronfenbrenner and Morris (2006) situate their primary focus on the microsystem and the manner in which personal characteristics and proximal processes affect activities within microsystems. In the case of ELLs, an EST approach will focus on how individual learner differences will interact with the classroom and other learning environments to affect learning. Lastly, Bronfenbrenner and Morris (2006) note that time is an essential ingredient for development. The factor of time, or the chronosystem in earlier models (Bronfenbrenner, 1994), included both periodic episodes of learning as well as longer units of learning. Another important aspect of time in learning is the function of history and experience in learning. All learners enter the classroom microsystem with learning histories that influence how they interact with others and engage with content. In particular, Bronfenbrenner and Morris (2006), explain that prior subjective learning experiences can produce constellations of beliefs and emotions, such as fear and doubts, that contribute to the efficacy of learning. These beliefs and emotions can strongly alter learners’ motivational resources.
In sum, EST consists of a dynamic, reciprocal relationship between the developing individual and their environment over an extended time period. The model signals the manner in which proximal processes, personal characteristics, context, and time affect individual development and learning. The next section introduces a conceptual framework that uses EST to explain how environmental factors can hinder development of academic English writing skills.

**Conceptual Framework**

The following conceptual framework introduces factors and their interrelationships that help explain challenges that ELL learners face when learning academic English writing. According to Lester (2005) the conceptual framework is narrower in focus than the theoretical framework, and it provides a justification for the factors selected for examination in a research study. Lester describes the conceptual framework as a type of *bricolage*, a French word roughly meaning *patchwork*. It refers to the construction of novel ideas from a collection of prior concepts (Lester, 2005). Thus, the researcher’s conceptual framework is a novel explanation derived from prior studies to explain ELLs challenges with academic English writing. Figure 1 below provides a visualization of the conceptual framework. While this conceptual framework considers all of the previously described components of EST, the framework focuses on ways that the personal characteristics of ELL learners influence proximal processes during activities in various learning environments, especially the classroom microsystem (Bronfenbrenner & Morris, 2006). The key personal characteristics for this conceptual framework are the personal characteristics of self-efficacy for language learning and second language anxiety. These factors interact and lead to more or less effective academic English performance. This interaction will be described in more detail in the subsequent section. In addition, time is a constant element that contributes to all aspects of academic English development. Learners’ prior classroom
experiences learning English is the most relevant aspect of time for this conceptual framework. The following sections of this chapter will examine in more depth the role of time, personal characteristics, proximal processes, and context related to challenges learning academic English writing.

**Figure 1**

*Conceptual Framework for Challenges Learning Academic English Writing*

![Conceptual Framework for Challenges Learning Academic English Writing](image)

**Time**

Time is an important factor for challenges that ELLs experience with mastering academic English writing. ELLs’ past learning experiences can greatly shape their current learning. Specifically, learners’ negative prior language learning experiences can contribute to low self-efficacy, anxiety, and knowledge gaps that can interfere with their efforts to learn in academic contexts.
**Negative Prior Experiences**

Research on student challenges with academic English indicate that prior language learning difficulties are often the origin of current academic difficulties (Dornyei, 1990; Lee, 2013; Spack, 1997, Teimouri, 2018). A common source of negative prior experiences is overly ridged instruction that prioritizes memorizing grammar rules that are devoid of meaningful social context. In a seminal study, Spack (1997) documented over three years a young Japanese woman’s struggles adjusting to the academic literacy requirements of a U.S. undergraduate college. The study used a single case study design that included multiple longitudinal interviews with the focal student, Yuko, and several of her undergraduate professors. During her freshman year of college, Yuko reported low confidence with academic writing and anxiety about studying with domestic students. Yuko reported that her prior learning primarily involved learning English grammar rules and prioritizing error-free communication. This resulted in a fear of making mistakes and confusion about how to write academic essays for her college classes. In one interview, Yuko exclaimed “I can’t” in exasperation, explaining that she did not know how to write an essay despite having scored well on the TOEFL (Spack, 1997, p. 5). Lee (2013) reported similar findings in her case study examination of the effect of prior language learning experiences on three adult ELL learners. One Italian participant in Lee’s study mentioned that her prior learning in Italy mostly involved memorization of grammar rules that left her unprepared and experiencing low confidence and anxiety in her current ELL classes in the U.S. This participant described her prior learning in Italy in the following way: “In Italy the feeling, it’s more like something severe” (Lee, 2013, p. 28). Lee and Spack’s studies illustrate the ways that negative prior learning experiences can contribute to feelings of low self-efficacy and high anxiety about language learning.
Negative prior experiences with language learning can produce a host of cognitive, emotional, and behavioral responses that interfere with beneficial proximal processes in the learning environment. For instance, numerous researchers have found that fear of failure in language learning can lead to avoidance of learning tasks, reduced communication in the target language, and decreased achievement (Dornyei, 1990; Teimouri, 2018). According to Brown et al. (2014) many typical school settings erroneously prioritize accuracy and punish students for making errors. This approach can result in students feeling anxious about making mistakes, and it can lead students to avoid challenges necessary for effective learning. For instance, in Spack’s (1997) study, her adult ELL dropped out of several writing-intensive college courses rather than face the challenge of writing in English. Other quantitative, survey-based studies have found that negative prior experiences studying English abroad (i.e. English as a foreign language) are strongly associated with negative learning outcomes (Dornyei, 1990; Teimouri, 2018). For example, in a survey study of 134 EFL learners, Dornyei (1990) found that prior bad learning experiences had a significant negative correlation with learners’ motivation to communicate in English ($r=.33; p<.01$). In another study, Teimouri (2018) found that shame due to past English learning failures was associated with the following negative outcomes: decreased willingness to communicate, decreased attention, and lower course grades. Although Teimouri did not measure language learning anxiety in his study, other studies, described in the next section, have shown that anxiety is associated with each of these same negative learning outcomes. In sum, research indicates that negative prior experiences learning English can contribute to negative effects such as low self-efficacy, anxiety, and knowledge gaps.
Personal Characteristics

Learners’ personal characteristics, including differences in affect, beliefs, and knowledge can have important influences on their academic English writing performance, which, in turn, can impact their course grades. Personal characteristics refer to relatively stable aspects of individuals that contribute to the strength and direction of proximal processes in the learning environment (Bronfenbrenner & Morris, 2006). The sections below describe the personal characteristics of self-efficacy, anxiety, and knowledge of academic English.

Interaction Among Self-efficacy, Anxiety, and Prior Knowledge

The personal characteristics of learners interact to impact proximal processes and learning behaviors. Bandura’s (1986) socio-cognitive theory helps explain the ways in which different personal characteristics affect learning. Bandura posited a system in which “behavior, cognitive and other personal factors, and environmental events all operate as interacting determinants of each other” (p. 18). In contrast to the one-way determinism of behaviorism, in which learners passively react to stimuli, Bandura argued that learners exercise agency over their own learning. This agency is mediated through the mechanism of self-efficacy, which refers to learners’ beliefs about their capabilities to complete learning tasks (Pajares, 2003). In the socio-cognitive model, the self-efficacy beliefs of learners explain their emotional responses to learning, their willingness to seek out learning opportunities, and their performance on learning tasks (Pajares, 2003). Specifically, Bandura (1986) explained that prior learning achievements, including prior knowledge, could predict current levels of self-efficacy. In addition, Bandura (1993) argued that low self-efficacy for learning tasks could predict learners’ anxious response to learning stress, and this anxious response would impair their ability to perform learning tasks optimally.
Several studies have identified a reciprocal interaction among self-efficacy, anxiety, prior knowledge, and performance (Pajares & Johnson, 1996; Phakiti et al., 2013; Woodrow, 2006a). Pajares and Johnson (1996) conducted a seminal research study that was among the first to identify this interaction. The authors conducted a study of 181 high school students, including ELLs, to examine the effects of writing knowledge, self-efficacy for writing, and writing anxiety on students’ performance on a writing task. The study results showed that prior writing knowledge correlated positively with self-efficacy ($\beta = .46, p < .001$), and self-efficacy correlated negatively with writing anxiety ($\beta = - .52; p< .001$). The authors observed an indirect positive correlation between self-efficacy and writing performance ($\beta = .40; p< .001$), and a negative correlation between anxiety and writing performance ($\beta = -.13; p< .001$). Importantly, Pajares and Johnson (1996) concluded that self-efficacy was a mediating variable that influenced writing anxiety. They contended that self-efficacy mediates anxiety. In other words, anxiety is a physiological response that occurs when self-efficacy for a writing task is low. Woodrow (2006b) found a similar pattern in a study of 275 ELL students prior to their matriculation in an Australian university. Woodrow observed that students who had higher prior English knowledge, based on English proficiency test scores, also had higher self-efficacy for speaking in English and lower levels of second language anxiety. The inverse was true for students with lower prior knowledge. Similarly, in a study of 232 EFL students at universities in Iran, Zabihi (2018) found that self-efficacy for writing was the strongest predictor of writing performance ($\beta = .66, p < .001$), and self-efficacy and writing anxiety were negatively associated ($\beta = -.61, p < .001$).

The interaction between prior knowledge, self-efficacy, and anxiety produces effects on task performance and course achievement. Several studies have shown that higher self-efficacy is associated with better learning task performance and course achievement (Pajares & Johnson,
1994, 1996; Phakiti et al., 2013). For instance, after controlling for other variables, Pajares & Johnson (1996) concluded that self-efficacy produces a strong direct effect on essay writing performance ($\beta = .40, p < .001$) while writing anxiety produces a more modest negative direct effect on writing performance ($\beta = -.13, p < .001$). Other studies have found significant correlations between language learner self-efficacy and final course grades (Phakiti et al., 2013; Mills et al., 2007). For instance, in a study of 341 ELL students studying English in an Australian university, Phakiti et al. studied the relationship between self-efficacy for English communication and final English course grades and their overall undergraduate GPAs. The authors found that there was a significant, positive correlation ($r = .22, p < .05$) between learners’ self-efficacy and their final English course grade, and their English course grade had a strong positive correlation with their overall undergraduate GPA ($r = .63, p < .05$). Similarly, Mills et al. (2007) found a positive correlation ($r = .24, p < .001$) between intermediate-level French learners’ grade self-efficacy (i.e., confidence in achieving a certain grade) and their final course grade.

**Second Language Anxiety**

Second language anxiety has been an especially important focus of language learning research for several decades. According to numerous studies, second language anxiety is an important factor that can exert a harmful influence on a language learner’s achievement (Horwitz, 1986; MacIntyre & Gardner, 1994; Woodrow, 2006a; Zabihi, 2018). Horwitz et al. (1986) posited that anxiety is common in language learning because learners are in the unique position of not having sufficient understanding of how their communication will be received and evaluated by proficient speakers of the language. The authors defined language anxiety as a type of situation induced anxiety that consists of “a distinct complex of self-perceptions, beliefs, feelings, and behaviors, related to classroom language learning arising from the uniqueness of
the language learning process” (p. 128). Horwitz et al. (1986) conducted a seminal exploratory mixed methods study of 78 undergraduate learners of Spanish to better understand these students’ experience with language learning anxiety. The researchers’ study used a novel survey, the Foreign Language Communication Anxiety Scale (FLCAS), to measure the extent of anxiety that participants experienced. Results of the study indicated that over a third of participants experienced anxiety on a majority of the survey items. The authors identified the following subcomponents of anxiety as affecting participants: communication apprehension, test anxiety, and fear of negative evaluation. Importantly, Horwitz et al. explained that language learning anxiety arises when learners realize that they will likely have difficulty communicating in the target language. This realization creates a disjoint between learners’ generally positive self-perception and how they are actually capable of presenting themselves. Cheng (2004) refined Horowitz et al.’s anxiety measurement instrument. Cheng included Horowitz et al.’s original conception and expanded the construct of writing anxiety to include the following features: Cognitive anxiety, somatic anxiety, and avoidance behaviors.

Several studies have found significant negative correlations between second language anxiety and various measurements of second language achievement. As illustrated in Appendix C, the correlation coefficients for these studies range from a low correlation of $r = -.14; p< .01$ in Cheng et al. (1999) to a high correlation of $r= -.76; p < .01$ in Chen and Lin (2009). Furthermore, researchers have found significant negative correlations for second language anxiety and achievement in relation to all English language skills, including speaking, reading, and writing (Cheng et al., 1999; Horwitz, 1986; Zin & Rafik-Galea, 2010). For instance, Cheng et al. (1999) investigated the interaction between general classroom anxiety, writing anxiety, and second language writing achievement for 433 English majors studying at a Taiwanese university. The
authors used the Foreign Language Communication Anxiety Scale (FLCAS) to measure general classroom anxiety, and they developed the Second Language Writing Anxiety Test to measure students’ writing-specific anxiety. Cheng et al. found that both of these measurements of learner anxiety resulted in significant negative correlations with students’ final course grades in their speaking and writing courses. As a result, several studies have shown that various forms of second language anxiety act as important personal characteristics that can strongly interfere with academic performance.

Summary

In summary, researchers have presented convincing evidence that prior knowledge, self-efficacy, and anxiety are important personal characteristics that influence academic English learning outcomes. Specifically, studies have shown that self-efficacy is a mediating variable for performance that is inversely related to anxiety and positively related to prior knowledge. Furthermore, self-efficacy can have an indirect effect on task performance and achievement. Thus, learners’ prior knowledge and self-efficacy can have a supportive or deleterious influence on both academic task performance and academic achievement.

Proximal Processes

Proximal processes function as the fuel source for development. Bronfenbrenner (1994) describes proximal processes as the ongoing set of interactions that learners participate in within their immediate learning environment. This can involve interactions with teachers, peers, or even solitary interactions with symbolic tools, such as texts (Bronfenbrenner, 1994; Bronfenbrenner & Morris, 2006). Importantly, Bronfenbrenner and Morris (2006) pointed out that proximal processes can moderate the effects of the environment and personal characteristics that might otherwise interfere with development. This section first discusses the important proximal process
of communicative interaction and attention in language development. Then, the section covers ways that the proximal process of peer learning can moderate the personal characteristic of second language anxiety.

**Interaction and Attention**

Second language acquisition researchers have gradually settled on a consensus that successful language learning necessitates producing language in meaningful contexts (Mitchell et al., 2013). Earlier foundational theories, such as Krashen’s (1987) input hypothesis, focused primarily on the role of linguistic input. Krashen argued that second language learning is similar to first language learning in that learners simply needed to be exposed to sufficient *comprehensible input*, meaning sufficient amounts of the target language within their ability range. However, Krashen’s hypothesis did not fully stand up to empirical testing.

Other SLA researchers quickly found evidence that merely exposing learners to sufficient input at the right level was not enough to promote successful learning (Schmidt & Frota, 1986; Swain, 1985; Swain & Lapkin, 1995, 1998). For instance, Swain (1985) used standardized testing data to compare the French language skills of native French speakers and Anglophone French speakers who had attended French immersion classes in Canada starting in first grade. Although Swain observed that the native and non-native speakers had similar scores on reading and listening, Swain noticed that the non-native French speakers performed less well than native speakers on reading and writing assessments. This led Swain to conclude that exposure alone to French was insufficient for developing full academic mastery of a language. In another seminal study, Schmidt and Frota (1986) conducted a case study over four months of one language learners’ experience learning Portuguese. The authors used daily learner diaries and audio interviews as data. This data indicated that being taught a language form or encountering the
form frequently was not enough for the learner to be able to use the form. For instance, the data showed that the learner encountered a particular word many times in class and natural settings, but he never learned to use the word appropriately. The researchers also noticed that the learner usually mentioned noticing a form in his learning diary prior to using the form during an interview. As a result, Schmidt and Frota concluded that learners must notice and try using a form to gain full mastery of that form.

Second language acquisition research supports the importance of interaction and noticing in the target language for effective target language development. The research of Schmidt and Frota (1986) and Swain (1985) supported Long’s (1996) interaction hypothesis. Long argued that comprehensible input alone is insufficient for language acquisition. He presented evidence that learners must interact with other speakers, produce target language, and engage in *negotiation for meaning*. Negotiation for meaning occurs when a communication breakdown happens, and a learner must identify and repair the source of their error. This communicative interaction is an important kind of proximal process that helps learners pay attention to relevant aspects of the target language that might otherwise go unnoticed. That said, current research in neuropsychology shows that anxiety can interfere powerfully with attention (Sari et al., 2017; Schwabe & Wolfe, 2010). For instance, Sari et al. (2017) presented evidence that anxiety interferes with learning through working memory by inhibiting the ability of the brain’s executive function to inhibit irrelevant stimuli and focus on learning-relevant stimuli. Thus, anxiety can interfere with important proximal processes in language learning, namely, attending to linguistic input and focusing on aspects of one’s own production.
Peer interactions

Proximal processes are the most powerful component of development, in part, because these processes can strongly influence both the learner and the environment (Bronfenbrenner & Morris, 2006). Peer interaction is one type of proximal process that is beneficial for language learning. Peer interactions can moderate the influence of unhelpful personal characteristics, such as lack of prior knowledge and anxiety (Kurt & Atay, 2007; Woodrow, 2006b). For instance, Woodrow (2006b) found that peer interactions moderated the effects of anxiety on English performance. In her study, Woodrow (2006b) investigated the effects of second language anxiety on academic achievement for 275 adult ELLs. The author found a significant negative correlation between speaking anxiety and oral achievement. However, participants in the study reported significantly lower levels of anxiety when working with peers on a discussion task than when participating in a teacher-led class discussion. It is likely that participants experienced less anxiety during peer work because this type of interaction removes the primary source of potential negative evaluation in the classroom, namely, the teacher. As Horwitz et al. (1986) argued, fear of negative evaluation is the essential mechanism for language anxiety, and teachers are the most important evaluators of students’ in the language learning classroom. Similarly, Schmidt and Frota (1986) found that the language learner in their case study preferred learning Portuguese informally with Portuguese-speaking friends because working with friends was less stressful than learning with his inflexible teacher. Also, Schmidt and Frota noted that friends in the study helped draw the learner’s attention to errors in his speaking, causing the learner to repair the errors during interactions with his friends. As a result, several studies provide evidence that peer interaction can act as a useful proximal process for mitigating the harmful effects of environment and personal characteristics.
Summary

Proximal processes, or interactions, are the essential mechanism for moving adult language acquisition forward. Interactions among learners in the language learning environment serve to draw learners’ attention to linguistic evidence regarding what is and is not possible in the language (Long, 1996). Furthermore, certain types of interaction, especially peer interactions, can increase the enjoyment and decrease the stress of learning.

Context

The physical and social context for learning forms the final component of the EST model of development. Bronfenbrenner and Morris (2006) explain that the learning context consists of both the immediate environment and more distant environments that affect the learner’s development. The various environmental contexts for language learning interact with the developing individual to form a system of interdependent reciprocal changes over time (Bronfenbrenner & Morris, 2006). Within the context component of EST, Bronfenbrenner and Morris included their previously theorized nested system of environments. This nested system consists of concentric environments beginning with the microsystem and expanding outward to include the mesosystem, exosystem, and macrosystem. The following section will address the role of each of these systems in language development, and the section will examine challenges related to anxiety about academic English writing.

Microsystem

The microsystem is the locus for the most immediate effects on the learner’s development. According to Bronfenbrenner (1977) the microsystem refers to the “complex of relations” that occur between the learner and the immediate environment which also includes that learner. The classroom is the most prominent and influential microsystem environment for
learning. Due to prior negative experiences with language learning, the microsystem can be a discomforting environment for many learners (Horwitz et al., 1986; Teimouri, 2018). As a result, teachers must proactively plan to establish a safe and supportive learning environment that will reduce what Krashen (1987) referred to as the affective filter for language learning. The affective filter, according to Krashen, is a psychological mechanism that includes anxiety and motivation. When activated, the affective filter prevents learners from noticing and incorporating linguistic input into their evolving language knowledge. Hardiman (2012) argued that the most important action that teachers take is to establish a positive emotional climate for learners. Actions that can assist with this include establishing class routines, providing students with choice in assignments, and helping students make meaningful personal connections to content. In addition, Long (1996) claims that the classroom functions as part of the immediate language environment to provide examples of positive and negative linguistic evidence. Positive evidence refers to what is possible within a language system while negative evidence refers to what is not possible. Interactions with teachers and peers in the language learning microsystem help learners understand the rules and linguistic resources that are available to them. In short, the microsystem acts as the immediate environment where learners’ affect influences how they interact and make use of the linguistic environment.

**Mesosystem**

The mesosystem consists of the connections between two or more microsystems that include the learner. Typical mesosystems would include the connections between the classroom and the home or peer groups outside of class (Bronfenbrenner, 1994). For instance, several studies have documented the importance of peer support groups for ELL student achievement (Mamiseishvili, 2012; Stoynoff, 1997; Zappa-Hollman & Duff, 2015). Zappa-Hollman and Duff
(2015) examined the importance of peer groups in a longitudinal multiple case study of six Mexican undergraduate students who were studying at a Canadian university. The authors found that most students formed strong peer networks with other international students, and they relied heavily on each other for emotional support when they struggled with course assignments. The participants especially relied on each other to provide peer review of course papers and to help interpret course requirements. These students often met in peer study groups and encouraged each other to continue their studies when they had difficulties. Similarly, the language learner in Schmidt and Frota’s (1986) study met frequently with peers to practice his spoken and written Portuguese, and he received valuable feedback and emotional support that encouraged him to continue making progress in learning the language.

Exosystem

Exosystems are non-immediate environments that influence the learner, but they do not include the learner. Like mesosystems, exosystems are complexes of interactions outside the immediate environment that act to “influence, delimit, or even determine” the actions that occur in the more immediate microsystem context (Bronfenbrenner, 1977, p. 515). The most important exosystem for the EAPP program is the Graduate School of Translation and Interpretation (GSTILE), which is the academic department that manages the EAPP program courses. This is an influential exosystem because it establishes the policies that govern participation in the EAPP class microsystems. For instance, the department administers English placement tests that determine which students must take EAPP courses, and the department places ELLs in appropriate program levels. Furthermore, the department establishes the learning outcomes for the courses and ensures that students are assessed to track their progress in the courses and the program. Students are required to take the EAPP courses, and they have required assignments in
their course. This requirement could inadvertently contribute to avoidance behaviors and low intrinsic motivation among students (Mitchell et al., 2013). Researchers have pointed out that avoidance behavior is common symptom of language anxiety and low motivation (Cheng, 2004; Horwitz et al., 1986). However, providing students with choice for their assignments and ensuring the assignments are relevant and useful can help improve motivation and avoidance behaviors (Hardiman, 2012). As a result, it is necessary for the EAPP program to connect course work to relevant aspects of students’ other graduate classes and their professional goals.

Macrosystem

The macrosystem is the final, and least immediate, context of the EST environmental framework for development. Bronfenbrenner (1994) explains that the macrosystem contains all the other systems, and it includes patterns of broader societal beliefs, behaviors, and cultures. As such, the macrosystem is a largely abstract system that exerts its influence through cultural expectations. One important macrosystem factor for mastering academic English is the important social and economic role of the English language. Several studies have reported on the high value that U.S. and international societies place on mastering English communication (Dowling, et al., 2012; Gao, 2016; Hatano, 2013; Pan, 2015). For example, Hatano (2013) found that English proficiency was an important marker of social status in Japan while Gao (2016) concluded that English proficiency was a gate keeper for participation and advancement in global companies in China. Furthermore, as noted in the introduction to this chapter, achieving advanced levels of English proficiency is associated with higher lifetime earnings in the U.S. economies (Chiswick & Miller, 1995, 2010; Gonzalez, 2000; Wang et al., 2017). Given the societal importance of English, many students are driven to succeed in their English courses. This can serve as a source of extrinsic motivation that can increase the stress that students face
when studying academic English. Thus, the economic and social value of English is an important macrosystem factor that influences language learning.

The culture of the U.S. academic community, including its rules for communication, is an aspect of the macrosystem that affects English learners. Academic English in general, and academic writing in particular, are core practices of the U.S. academic community of practice (Brown et al., 1989). Several researchers have argued that academic English is a cultural practice of academia that often entails implicit rules and standards (Gee, 2008; Lea & Street, 1998; Spack, 1997). Gee (2008) explains that academic English is a “specialist variety of English” that uses vocabulary, grammar, and rhetorical moves that are different from everyday vernacular English (p. 98). Moreover, Gee claims that the choices writers make when using academic English are designed to communicate a specific perspective about the world. According to Gee, learners cannot effectively learn how academic English communicates perspectives without using academic English in social settings that help reveal these perspectives. Gee writes, “Learners need to participate in social interactions and activities in which they can make good guesses about what perspectives on reality the language and other symbol systems they see in use are being used to take” (p. 99-100). Students who have not had these social interactions do not have the same opportunity to learn as other students who have had these experiences. Thus, learners need to have opportunities to share and discuss their writing with faculty and peers in order to gain greater command of the macrosystem cultural practice of academic English.

Academic English writing is a necessary skill for participation in the academic community of practice. The clearest reason that academic English is important for ELLs is because academic writing is the primary mode of communication for assessments across most academic disciplines (Ruth, 2008). For instance, French (2018) refers to academic writing as the
“gold standard” for summative assessments across a variety of disciplines, including STEM disciplines (p. 408). According to French, “getting to grips with unfamiliar higher education academic writing practices is crucial to first-year students’ achievement, retention and progression.” (p. 408). Crossman (2018) echoed this sentiment by claiming that academic writing is an essential skill for success in higher education, arguing that many ELLs struggle to transition to higher education because they have not been adequately prepared to handle the unfamiliar expectations of academic writing. Given the importance and complex nature of academic English writing, many ELLs likely will benefit from additional support developing their academic writing.

Summary

This chapter has provided an introduction to the problem of low achievement among adult ELLs in academic writing courses. Bronfenbrenner and Morris’s (2006) ecological systems theory provided a theoretical framework for exploring the manner in which time, personal characteristics, proximal processes, and contexts help explain ELL learning challenges. In particular, the chapter highlighted how the personal characteristics of self-efficacy, anxiety, and prior knowledge interact to influence ELL learning.

Chapter 2

Needs Assessment: Writing Anxiety

As the previous sections of this paper indicate, a multitude of factors interact to make learning a second language a challenging and complex endeavor. In particular, decades of research and remarkably consistent results in empirical studies point to second language anxiety as a particularly pernicious factor that can inhibit language learning and achievement (Horwitz et al., 1986; Zabihi, 2018). As a result, the author conducted a needs assessment to examine the role
that anxiety plays for ELLs studying English. More specifically, the needs assessment sought to identify aspects related to writing anxiety that learners might need more support managing. The author chose to focus on academic writing anxiety due to the extensive body of research that points to the critical importance of academic writing for success in a variety of academic disciplines (Antonetti, 2017; Caplan & Stevens, 2017; Hurtado et al., 2012; Morton et al., 2015).

In the following assessment, the author provides qualitative evidence for the problem of practice in the EAPP program at MIIS and then explains the purpose of the quantitative needs assessment. Next, the author describes the research questions that guided the quantitative data collection. Subsequently, the author provides an overview of the needs assessment population, the instruments for the study, and the procedure for the data collection. Finally, the author concludes with a summary of the data analysis procedures and findings.

**Context of Study**

The context for this needs assessment study is the Intensive English Program (IEP) at MIIS, which is an academic English program for adult ELLs. The IEP program strives to provide quality English language education that will prepare international and domestic ELLs for success in U.S. higher education and in the global workforce. Students often attend the IEP prior to matriculating in graduate degree programs at MIIS. As the IEP mission states, the program aims to help students build “academic, intercultural, and language skills” that will enable them to “achieve their own goals in the classroom and beyond” (Middlebury Institute of International Studies, 2018, p. 3). The mission and demographics of students in the IEP are very similar to the EAPP program. Students in both programs are focused on reaching advanced levels of academic English so they can succeed in U.S. degree programs. The IEP offers four sessions of English courses throughout the year, and each session is between 10 and eight weeks long. Students in
the program have the opportunity to take three different core English course: Writing and Grammar, Reading and Vocabulary, and Oral Communication. Upon joining the program, students take a language proficiency placement test, which is used to place them in one of seven different proficiency levels for each of the core courses.

The IEP has a small but diverse population of students who have a variety of educational and career goals. The majority of students in the program are international students, who come to study English and complete degree programs before returning to their home countries (Phakiti et al., 2013). From the spring 2017 session to the spring 2018 session the program enrolled 67 total students; ninety percent of these students were international students and the remaining 10% were domestic students. While the IEP program has a relative diversity of students, the majority of students in the program were from east Asian countries. Specifically, during the spring 2017 to spring 2018 session, 61% of students were from east Asian countries. The top country of origin for the IEP during this period was China, which comprised 25% of students in the program. Other prominent countries of origin in the IEP included South Korea (13%) and Taiwan (12%).

Given the demographics of the IEP, the target population for this needs assessment includes international students with an L1 other than English who are studying in the U.S. or other English majority countries. In addition, the target population includes students who have goals of improving their English as a means of obtaining a postsecondary degree and improving their career prospects in their home countries. According to the Institute for International Education, 903,127 international students studied in the U.S. postsecondary degree and non-degree programs in 2017, and the top country of origin was China. Other east Asian countries, such as Korea and Taiwan, were also among the top ten countries of origin for international
students. Thus, the demographics of the IEP and the target population for this study are similar to the broader population of international students studying in U.S. institutions.

**Evidence for the Problem**

Students in the IEP at MIIS experience a variety of challenges that are similar to challenges that researchers have found among other groups of language learners (Horwitz, 1986; Phakiti et al., 2013; Woodrow, 2011). As mentioned previously, one significant challenge for students in IEPs involves difficulties that students’ experience in acquiring advanced levels of academic English proficiency. In particular, students in this program tend to struggle to master academic writing skills, which is a critical academic skill that can greatly influence success in postsecondary courses (Leki, 2007; Morton et al., 2015). Due to the specialized nature of academic English, ELLs often struggle to acquire mastery of various aspects of this variety of English (Schleppegrell, 2001).

Results from a preliminary pilot study provided initial evidence that second language writing anxiety is a significant challenge worth investigating further. During the winter 2018 session of the IEP, the author spoke directly with one student who seemed to be struggling greatly with her level three Writing and Grammar class. The IEP has a student mentoring program for students who the faculty identify as having social and/or academic difficulties at the beginning of the session. The program faculty referred one student named Angela (name changed) to the program. This mentoring program involves initial conversations with the program director (the author) in addition to individualized tutoring with faculty and program tutors. During the one conversation with Angela, she explained that she felt very anxious about her ability to write effectively in English. She explained that she was a successful marketing professional in her home country where she was used to writing well in Spanish to communicate
for her work. Angela repeatedly explained that she felt nervous about writing for class assignments because she did not think she could fully express the complexity of her ideas in English. Angela seemed to be experiencing a conflict between her image as a competent, successful professional, and her limited capabilities to communicate in English. Angela’s struggles seem to reflect Horowitz et al.’s (1986) observation that “the disparity between the ‘true’ self as known to the language learner and the more limited self” is a defining feature of second language anxiety. In addition, faculty in the program reported that Angela had extreme difficulties when she needed to compose texts in class. The faculty explained that she often took a long time to begin writing and usually requested more time to complete her timed in-class essays. This could be an example of the test anxiety and tendency towards perfectionism that Horwitz et al. claim is a component of second language anxiety. Given the difficulties with writing anxiety that Angela reported, the author elected to further investigate the existence of second language writing anxiety in the IEP.

Statement of Purpose of the Study

Due to the documented relevance of second language writing anxiety for achievement in academic writing, it is important to develop a better understanding of the needs that ELLs have in regard to this factor. Given the importance of anxiety for writing achievement, this needs assessment aims to determine whether students in the IEP struggle with second language writing anxiety. The needs assessment will examine students’ reported experiences with various aspects of second language writing anxiety. The unit of measurement for the study is individual students. In addition, the study will involve a quantitative methodology, which will employ a survey questionnaire instrument to measure students’ reported experiences with second language writing
anxiety. Thus, the purpose of this needs assessment is to appraise the existence and types of second language writing anxiety (SLWA) among students in the IEP.

Research Questions

The following two research questions helped direct the author’s examination of the role that SLWA plays in the English program.

Research question one: To what extent do students in the English program experience second language writing anxiety?

Research question two: Which aspects of second language writing anxiety do students in the IEP struggle with the most?

Method

Participants

The IEP has a small but diverse population of students who have a variety of educational and career goals. During the summer 2018 program session when the researcher collected data, the school had a total enrollment of 16 students. In order to qualify to participate in the study, students needed to take the Writing and Grammar class, and they needed to have at least an intermediate level of English as determined by placement in level two or higher classes. One student in the program was a part-time student who did not take the Writing and Grammar course, so the researcher excluded this student from the needs assessment data collection. In addition, one student in the program had a beginner level of English, so she also was excluded from the study due to concerns that she would not be able to sufficiently comprehend the survey questions. Thus, a total of 14 students in the summer session of the IEP comprised the sample for the needs assessment study. As is common in the program, the summer 2018 session had the
highest enrollment for the year. The higher enrollment during the summer session provided the best opportunity for a normal distribution of response data (Lochmiller & Lester, 2017).

Of the 14 total study participants, the majority, or 71%, were from Asian countries. The second largest group of participants included Hispanic students, who comprised 21% of total participants. Importantly, 64% of the participants were from traditionally Confucian heritage countries, including China, Republic of Korea, Taiwan, and Japan. The Confucian heritage of many students in the program is an important feature of the population because Woodrow (2006b) found that Confucian heritage students studying in an IEP in Australia reported significantly higher second language anxiety than students from other national backgrounds. Woodrow (2006b) claimed that Confucian values of face-saving and silence could influence learners’ anxiety when confronted with the expectation of communicating in class. As a result, certain demographic features of the IEP student population signal potential needs for support with second language anxiety and self-efficacy. For a more detailed look at the national backgrounds of the population, see Table 1 below.

Gender was another important demographic feature of the respondents who completed the SLWAI survey. Specifically, 64% of the respondents were female while 36% of the respondents were male. The majority female composition of the population is perhaps an important demographic feature because, as Pajares (2003) points out, studies have shown that females generally perform better than males on writing assessments, but they have similar levels of self-efficacy as male students, indicating that they are potentially under-confident in their actual capabilities. In other words, if females have similar levels of self-efficacy as males who are less capable, then it is possible that issues of female self-efficacy are at least in part driven by psychological factors as opposed to actual skills gaps.
Ethics

In order to avoid the potential for coercion due to the author’s position of authority as the associate director of the program, the author asked a program assistant to recruit students for the survey (Lochmiller & Lester, 2017). The program assistant was a graduate student who did not teach the students and did not have a position of authority in relation to the students. This program assistant sent an email to students a week prior to administering the survey. In this email, the program assistant explained the nature of the research and told students that they would have the option of voluntarily completing the survey in their Writing and Grammar class. In addition, the email explained that students could ask their teachers or the program assistant if they had any questions about the research. The author compiled the questionnaire items in an online survey platform (Qualtrics), and the program assistant administered on program iPads to students. The program assistant administered the survey during 15 minutes of class time at the end of the fourth week of the Summer 2018 session. Immediately prior to administering the survey, the program assistant explained the voluntary nature of the survey and had students sign a John’s Hopkins IRB informed-consent form, which the author’s host institution IRB also
approved. In addition, the consent terms also appeared in the introductory language of the survey before any questionnaire items.

**Measures and Instrumentation**

The author used the *Second Language Writing Anxiety Inventory* (SLWAI) instrument to examine the construct of second language writing anxiety among the study participants in the IEP (Cheng, 2004). In a study of second language writing anxiety, Zabihi (2018) operationalized second language writing anxiety as “a special type of anxiety, particular to the language-particular skill of writing” (p. 36). This definition is an extension of Horwitz et al.’s (1986) foundational operational definition of foreign language anxiety, which they described as “a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (p. 128). Thus, second language anxiety, also known as foreign language anxiety, is a specific form of situation specific *state anxiety* that language learners are prone to experience, particularly in classroom settings (Horwitz, 2001).

The researcher used Cheng’s (2004) SLWAI survey to measure the variable of second language writing anxiety among the target population. The SLWAI is a 22-item questionnaire that uses five-point Likert scale items with response anchors that range from *strongly disagree* = 1 to *strongly agree* = 5 (Cheng, 2004). Cheng developed these items by using open-ended responses from 67 postsecondary English majors in an EFL setting, and the items were pilot tested and refined, which contributed to construct validity. The instrument includes sub-scales for *somatic anxiety, cognitive anxiety, and avoidance behavior*. Somatic anxiety refers to physical experiences of anxiety, such as increased heart rate, and cognitive anxiety refers to worry about negative performance outcomes. Also, avoidance behavior refers to avoiding situations that
would necessitate writing in English. The researcher did not need to adapt the SLWAI because all items were written in English, and all items were relevant to the experiences of ELLs in the program. The following are example items from the SLWI:

**Item 2.** *While writing English compositions, I feel worried and uneasy if I know they will be evaluated.*

**Item 6.** *I don’t worry that my English compositions are a lot worse than others’.*

**Item 7.** *I tremble or perspire when I write English compositions under time pressure.*

Cheng (2004) examined the internal consistency and reliability of the instrument and reported an overall Cronbach’s alpha of .91 for the full instrument. In addition, Cheng (2004) reported alphas between .82 and .88 for the three sub-scales. Cheng (2004) also performed a test-retest procedure for reliability and derived an alpha of .85. According to Ponterotto and Ruckdeschel’s (2007) acceptability matrix for Cronbach’s alpha, the overall instrument reliability is excellent and the sub-scale coefficients are *moderate to good*, which are acceptable levels. As a result, the SLWAI appears to have acceptable validity and reliability.

**Procedure**

The researcher oversaw administration of the SLWAI questionnaire to study participants during the summer 2018 session of the IEP. The session dates for the summer session were June 28, 2018, to August 10, 2018. The data collection for this study occurred during the second week of the summer 2018 session on Friday July 6, 2018, during the Writing and Grammar class. The following sections describe in more detail the data collection and analysis procedures for the needs assessment study.
**Data Collection Methods**

The author collected anonymous data from 14 of the 16 total students who attended the IEP during the summer 2018 session of the program. These 14 students constituted the population of students who met the qualifications for participating in the study, namely, taking the Writing and Grammar class and being above level one in the program. The author transferred items from Cheng’s (2004) SLWAI to a Qualtrics survey questionnaire, and a trained program assistant administered the questionnaire to students in the three different Writing and Grammar classes in the program during the fourth week of the Summer 2018 session. In addition, the program assistant encouraged students to use a dictionary and ask for help if they needed help understanding any of the words in questionnaire items. Students had less than 15 minutes to complete this survey per the Johns Hopkins University blanket IRB protocol. All 14 participants successfully responded to the questionnaire, and the program assistant reported that students did not express any difficulties with completing the questionnaire.

**Data Analysis**

The researcher performed basic descriptive statistical analyses on the questionnaire response data. Basic descriptive statistical analyses were sufficient and appropriate for establishing the relative frequency of writing anxiety among the study sample. Examination of the mean, median and standard deviations of the responses for the sample helped establish the prevalence and extent of writing anxiety among the study sample. Due to the small sample size, it was not possible to compare means for subgroups of students using inferential statistics. Furthermore, inferential statistical analyses were unnecessary for answering the study’s research questions.
The researcher used the Statistical Package for the Social Sciences (SPSS) to analyze the participant response data. After collecting survey response data, the researcher exported the raw survey response data from Qualtrics to a Microsoft Excel CSV file, which then was imported to SPSS. In order to obtain a single score for SLWA, the researcher reverse coded ten of the survey items that were negatively worded. Next, the researcher used SPSS to compute descriptive statistics for each item and for each participant.

Results

The survey results provide a complex picture of SLWA among students in the program’s Writing and Grammar classes. The first research question was “To what extent do students in the IEP experience second language writing anxiety?” The data analysis reveals that students in the program overall experience a moderate level of SLWA. The mean respondent score for all items was 2.91, and the median score was 3.04, and the mode was 3.04 on the five-point Likert scale. There was a standard deviation of .56. A more detailed analysis of the data indicated that respondents expressed much higher levels of anxiety than the overall respondent mean and median for many of the individual survey items. For instance, a majority of respondents answered with a score of three or higher on 81% of the items on the survey. In fact, a high percentage of respondents chose responses of three or higher on several of the survey items. For instance, consider survey item three, which states, “While writing English compositions, I feel worried and uneasy if I know they will be evaluated” (Cheng, 2004, p. 324). For this item, 85.7% of respondents answered with a score of three or higher. Furthermore, 50% of respondents answered this item with a score of four, which indicated that they agreed with the statement. These results provide evidence that many students in the program experience problematic levels of SLWA in at least some situations that are important for their acquisition of academic writing.
skills. In particular, these results indicate that students experienced high levels of anxiety most acutely when they had to write in the context of evaluation.

Next, the researcher examined the specific aspects of SLWA that students reported struggling with. The second research question was: “Which aspects of second language writing anxiety do students in the IEP struggle with the most?” The answer to this research question is that students appeared to struggle most with avoidance behavior and somatic anxiety. For the somatic anxiety subscale, the data analysis resulted in a mean score of 2.83, a median of 3.07, a mode of 3.14 and a standard deviation of .66. The avoidance behavior subscale had a mean score of 3.09, a median of 3.29, a mode of 3.14, and a standard deviation of .73. The cognitive subscale had a mean of 2.83, a median of 2.81, a mode of 2.75, and a standard deviation of .56. Table 2 below provides this data.

**Table 2**

<table>
<thead>
<tr>
<th></th>
<th>Somatic Anxiety</th>
<th>Avoidance Behavior</th>
<th>Cognitive Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Mean</td>
<td>2.8265</td>
<td>3.0935</td>
<td>2.8304</td>
</tr>
<tr>
<td>Median</td>
<td>3.0714</td>
<td>3.2857</td>
<td>2.8125</td>
</tr>
<tr>
<td>Mode</td>
<td>3.29</td>
<td>3.14</td>
<td>2.75</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>.66813</td>
<td>.73986</td>
<td>.75417</td>
</tr>
</tbody>
</table>

Thus, respondents reported the highest mean level of SLWA related behaviors in relation to situations that involved avoiding writing in English. In fact, 10 of the 14 respondents reported mean scores of 3.0 or higher on the avoidance behavior subscale. For instance, two respondents had mean scores of 3.86 on this subscale. Also, since the study involves a small sample size and a non-normal distribution, it is important to consider not just the mean results, but also the median, which can be a better measure of central tendency when data does not have a normal
distribution, contains extreme outliers, and is based on a small sample (Manikandan, 2011). When considering the median values, the levels of reported SLWA appear higher. For instance, there was a median score of 3.07 for somatic anxiety and a median of 3.29 for avoidance behavior. Thus, an examination of the median values indicates that both somatic anxiety and avoidance behavior are potential issues that students in the IEP struggle with.

**Discussion**

These results are particularly problematic because they reflect behaviors that are deeply harmful for language learning. As Gass and Selinker (2008), pointed out, ELLs need to frequently practice target language forms in meaningful, communicative settings in order to master aspects of the language. In addition, recent neurocognitive research provides evidence that information is learned best, and deepest, when the learning is spaced over time and learners have multiple opportunities to retrieve the content (Brown et al., 2014; Roediger & Butler, 2011; Roediger & Pyc, 2012). If many learners in the IEP are regularly avoiding opportunities to practice English writing skills, they also are likely not benefiting from optimal neurocognitive learning practices. Also, research indicates that the somatic effects of anxiety can interfere with a host of cognitive functions, such as attention and working memory, that are important for complex behaviors such as writing (Hardiman, 2012; Liston et al., 2009; Zabihi, 2018). For instance, Zabihi (2018) found that ELL writers who reported higher levels of SLWA also had problems with working memory, which resulted in less complexity and accuracy in their writing and lower writing achievement.

In addition, a large body of educational research points to the broadly harmful effects for learning and achievement among students who have *performance avoidance* mindsets, which is a subconstruct of *entity mindsets*, or beliefs that intelligence is not malleable (Bandura, 1993;
Dweck, 1986; Lou & Noels, 2017). For instance, language learning researchers have found that language learners who express performance avoidance intentions also are more likely to avoid challenges that can help them learn, and these learners experience helplessness and increased anxiety in response to learning failures (Lou & Noels, 2017; L. Woodrow, 2006a). As a result, the needs assessment data point to potentially problematic learner mindsets and related behaviors. In short, the data provide some evidence of mindsets and learning behaviors that could greatly hinder learners’ acquisition of academic English writing skills.

**Needs Assessment Summary**

In summary, this needs assessment provided some evidence that ELLs in the IEP struggle with certain aspects of second language writing anxiety, which could inhibit their optimal performance in the program in addition to their progress towards their academic goals. In particular, the study indicated that learners in the program in general experience a moderate level of SLWA. More specifically, the study provides evidence that learners especially experience SLWA that is related to avoidance of writing tasks that involve evaluation, and learners experience physical symptoms of SLWA.

Even if only a few learners experience high levels of second language writing anxiety, the experience of high anxiety could influence their ability to pass their Writing and Grammar class, which could contribute to lower pass rates for the course. As a result, it is important for the IEP to identify methods to help students address the challenges of avoiding writing in English and somatic experiences of writing anxiety. One promising method for addressing writing anxiety is peer review interactions. Studies show that peer review interactions are effective for reducing writing anxiety (Choi, 2013; Kurt & Atay, 2007). For instance, helping students learn to
utilize peer supports could reduce their fear of evaluation and make the writing process less solitary, thus increasing motivation to write in English.

**Limitations**

There are several limitations to this study. First, the small size of participants in this study presents challenges for generalization of the results (Lochmiller & Lester, 2017). As a result, it will be important to triangulate data by including additional qualitative measures in future research, which could also add depth to the understanding of the SLWA phenomenon. In addition, the population of the students during the summer session is somewhat different that students who attend the program during the other three sessions. During the summer, the IEP often hosts students who attend the program on merit scholarships from their host colleges and universities abroad. Since these students attend on merit scholarships, they tend to be high performing students who could have higher self-efficacy for writing in English and might be better at coping with SLWA. The IEP hosted three merit scholarship students during the time period of this study. As a result, it is possible that these students’ responses skewed the data resulting in a lower-than-normal level of SLWA than would be expected in the larger population of students who attend the IEP. Thus, there is reason to believe that the levels of SLWA among students in the program could be higher than the levels that the researcher observed in this study.

**Conclusion**

The author conducted a needs assessment study to provide evidence of the problem of second language writing anxiety within the context of the IEP at MIIS. The needs assessment results indicated that students in the program likely experience moderate to high levels of second language writing anxiety, and students particularly struggle with avoidance behaviors related to writing in English. As a result, an examination of the broad and context-specific factors that
influence ELL academic achievement reveal that learners in the IEP will likely benefit from additional support to help them seek out increased opportunities to write academic English.

Finally, revisiting the conceptual framework in figure 1 can help contextualize the results of this study. As previously indicated, aspects of the learning environment, both current and past, can interact to influence learners’ unstable individual differences, which can support or hinder learning (Dornyei & Ryan, 2015). In addition, as Bandura (1986) pointed out, learners have agency and can act to influence their environment, which can have effects on their emotions and learning outcomes. As a result, it would seem important for the IEP to first identify which aspects and practices within the classroom environment serve as hurdles or supports to learning. For instance, peer interactions can serve as a method to make the writing process more social, which can provide additional social resources for language development. Based on the importance of learner agency in Bandura’s (1986) work, it appears equally important for the program to develop supports that will enable learners to actively manage elements of their environment that will enhance positive individual differences, lower second language writing anxiety, and facilitate higher achievement.

Chapter 3

Intervention Literature Review

Developing mastery of a second language requires effective use of social resources to gradually achieve increasing levels of independent control of the language (Lantolf & Thorne, 2006; Swain, 2006). In particular, learning to write well in a second language involves developing command of the linguistic norms of particular academic discourse communities (Lea & Street, 1998). Studies have shown that working with more expert speakers of the second language (L2) can help English language learners (ELLs) in postsecondary contexts develop
more independent control of academic writing discourse norms (Leki, 2007; Morton et al., 2015). Despite the importance of writing for postsecondary success, numerous studies have indicated that second language writing anxiety is an important factor that can contribute to problems with writing course achievement for ELLs (Chen & Lin, 2009; Woodrow, 2011; Zabihi, 2018).

As a result, second language writing anxiety is a pivotal challenge for many ELLs, and these ELLs would likely benefit from interventions to decrease their experiences with writing anxiety. Furthermore, the results of the needs assessment indicated that many students in the Intensive English Program (IEP) experience second language writing anxiety, which could limit these students’ willingness to engage in social support for their writing. More specifically, the results of the needs assessment indicated that students in the IEP have moderate levels of second language writing anxiety in addition to specific challenges with writing avoidance behaviors.

It is possible that these avoidance behaviors act as an important barrier to engaging in the social opportunities that could help learners in the program develop mastery of academic writing discourse practices (Lou & Noels, 2016; Mitchell et al., 2013). For example, King and Smith (2017) observed that social anxiety, which includes avoidance of social interactions, is a “deep seam running through” (p. 91) the construct of second language anxiety. Furthermore, King and Smith argue that facilitating positive group interactions among students has the greatest potential to help reduce students’ social anxiety and language learning anxiety. This literature review provides an overview of intervention studies that focused on reducing second language learning anxiety through a variety of social means. In this chapter, the author first provides a conceptual
framework for the effect of anxiety on second language writing, and then the author reviews intervention studies related to the themes of collaborative writing, peer review, and mindfulness.

**Conceptual Framework for Effect of Anxiety on Writing**

**Sociocultural Theory**

This section of the chapter presents a conceptual framework that identifies the factors and mechanisms by which second language writing anxiety impedes the social interactions necessary for effective language acquisition. The conceptual framework details the hypothesized interaction between anxiety and other individual and social factors that potentially interact to inhibit the optimal social interaction that researchers claim is necessary for language acquisition (Lantolf & Thorne, 2006; Long, 1996; Swain & Lapkin, 1998). Sociocultural theory (SCT) and other related theories can be combined to provide a useful conceptual framework for understanding the role that social interaction might play in supporting development of second language academic writing skills. Sociocultural theory is a theory of human development that grew out of Vygotsky’s (1978) initial research in the 1930s on the cognitive development of children. While Vygotsky’s original research focused on the individual development of children, later neo-Vygotskian researchers in the field of second language acquisition expanded Vygotsky’s early theories to include more of a focus on how learners of all ages actively construct knowledge through social interactions with a wide range of interlocutors (Mitchell et al., 2013). According to SCT researchers, the social use of language is the means through which humans are able to develop higher order mental processes, such as memory, reasoning, and learning (Lantolf, 2012; Lantolf & Thorne, 2006; Vygotsky, 1978).
The central tenet of Vygotsky’s sociocultural theory is that all higher-order mental processes begin as social processes that are mediated through language, which is eventually internalized to become pure thought. As Vygotsky (1978) explained, every developmental cognitive function “appears twice: first on the social level, and later, on the individual level; first, between people (interpsychological), and then inside the child (intrapsychological)” (p. 57). The development from inter- to intra- mental cognitive functioning occurs through a process that SCT researchers have referred to as mediation (Lantolf & Thorne, 2006; Mitchell et al., 2013). For Vygotsky (1978), language is the primary symbolic tool that learners use to mediate between their social interactions and their thoughts. Furthermore, Lantolf and Thorne (2006), argued that language is the primary cultural tool that enables human agency and the ability for individuals to control their social and inner psychological worlds.

Vygotsky claimed that language helps mediate thought through a cycle of internalization that begins with social speech, which is followed by private speech and then inner speech. Private speech refers to someone speaking quietly to themselves while inner speech refers to purely internal, mental speech (Lantolf & Thorne, 2006). According to Mitchel et al. (2013), moving from use of social speech during language learning to private and inner speech represents a developmental shift from other regulation to self-regulation. Researchers have presented evidence that each of these types of linguistic mediation are important aspects of language development for acquisition of both first and second languages (Lantolf & Thorne, 2006; Mitchell et al., 2013; Swain et al., 2009).

**Interaction Hypothesis and Noticing**

Studies of child and adult second language acquisition have shown that interaction through social speech is an especially important component of effective second language
development (Aljaafreh & Lantolf, 1994; Long, 1996; Swain, 1985; Swain et al., 2009). In fact, Long (1996) argued that passive exposure to target language input alone without interaction is insufficient for developing higher levels of language proficiency. According to Long’s (1996) interaction hypothesis, adult language learners acquire an L2 through interacting with more expert interlocutors through a process called negotiation for meaning. Negotiation for meaning refers to a learner and a more expert speaker using various conversational strategies to adjust their speech in response to miscommunications (Long, 1996). This process is triggered when communication breakdowns occur between the expert and novice, resulting in the pair working together to repair the breakdown (Long, 1996). The types of feedback that the expert provides in response to the breakdown facilitates the language learner noticing, processing, and eventually acquiring the target language (Long, 1996). Long argued that social interaction during language learning helps learners to notice aspects of the linguistic environment that are necessary for further acquisition. Examples of such feedback include recasts, clarification requests, confirmation requests, and elicitations. According to Long, this feedback serves to make the correct forms more salient and comprehensible for the learner, leading to better acquisition of the forms. Long’s interaction hypothesis focused on learners noticing feedback produced during interaction, but Swain & Lapkin (1995) went a step further and asserted that learners must also produce modified speech in order to improve.

Output Hypothesis

While Long (1996) tended to focus on interaction, Swain (1985) presented evidence that interaction alone is insufficient for advanced language acquisition. For instance, in a seminal study, Swain (1985) showed that in the absence of conversational interaction focused on targeted language forms, French immersion students failed to acquire key spoken and written
grammatical forms that their native speaking peers had acquired. Swain’s study involved a comparison of 69 French immersion students in the sixth grade with 10 French native speakers in the sixth grade at the same school. According to Swain and Lapkin (1995), learners’ acquisition can stagnate when they are not pushed to perform past their existing performance level, resulting in a barrier to achieving higher levels of proficiency. The authors developed the output hypothesis to explain the cognitive processes related to attention and noticing that are necessary for L2 learners to continue progressing to more advanced levels of proficiency. According to this theory, in order to reach these higher proficiency levels, learners need to notice gaps between their language production and target-like production (Swain & Lapkin, 1995). Once learners notice this gap, they analyze internal and external feedback, which can lead to comparison of alternatives and, ultimately, the production of the target form. Without the final production step, acquisition stagnates. Swain and Lapkin (1995) found that higher proficiency French learners spent significantly more time paying conscious attention to the grammar of their writing. These learners also were more likely to apply explicit grammatical rules to problems they had noticed during a French writing task. As a result, Swain and Lapkin (1995, 1998), claimed that L2 learners cannot develop advanced spoken and written production in an L2 without paying attention to linguistic problems and feedback so that they can resolve discrepancies in their production.

Further research by Swain and Lapkin (1998, 2002), indicated that social collaboration among learners could facilitate this noticing and linguistic problem solving. For instance, in a seminal study, Swain and Lapkin (1998) found that when novice and expert learners discussed language related challenges these learners were able to support each other’s writing development. The authors found a significant positive correlation ($r=0.62; p=.04$) between
language related conversation during a collaborative writing task and participants’ individual scores on a post-test of writing proficiency. As a result, Swain (2006) developed the term of “languaging” (p. 97) to describe the use of language to solve language-related challenges that arise during the course of learning a second language. Engaging in languaging can help improve outcomes for adult language learners. For example, Swain et al. (2009) analyzed the use of languaging among college learners of French and found that high languaging students performed significantly better than low languaging students on post-intervention assessments related to target grammatical forms. In addition, Swain, et al. found that high languaging students produced more conceptually accurate explanations of target form use. In their study, the author’s used elicitation cards to push students to produce more languaging when the students were struggling. This intervention resulted in all students improving some and high languaging students improving the most. Thus, Swain (2006) and Swain et al. (2009) helped build a case that teachers can facilitate student languaging which can improve understanding and achievement for students.

Text Composition

Text composition is an important aspect of the conceptual framework (depicted in figure 2 below) because it involves both the process and product that forms the basis for evaluating student writing achievement. Linguistic-mediated interaction is a key process for the composition of texts (Lantolf & Thorne, 2006). Although academic texts often are viewed as the product of individual thought, sociocultural theory views texts as socially constructed artifacts comprised of appropriated language and ideas (Lantolf & Thorne, 2006; Mitchell et al., 2013). Similarly, the influential philosophers Bakhtin (1981) and Derrida (2001) viewed texts as unstable and interwoven with the language and ideas of multiple composers.
For instance, Derrida (2001) introduced the influential analogy of text construction being a kind of bricolage, which involves “borrowing one’s concepts from the text of a heritage that is more or less coherent or ruined…every discourse is *bricolage*” (p. 360). In a sense, every text is an amalgam of other texts that have been reconstituted in a new whole. This is similar to the Bakhtin (1981) theory of dialogic text construction. In Bakhtin’s theory, a text is not a fixed document that expresses the unified identity of the author; instead, it is a social, cultural product imbued with meaning through its relationship, or dialogues, with other speakers and texts. According to Merkel (2018), second language text construction can be understood as a dialogic process that involves contributions from both experts and novices who can alternate roles. Additionally, Merkel noted that dialogic approaches to ELL writing could help ELLs become more aware of audience, take ownership of their texts, and use dialogue to clarify intended meanings. Thus, social interaction is the primary mechanism through which texts are negotiated, constructed and imbued with value, or authority.

**Attention in Second Language Acquisition**

Researchers who operate from different theoretical perspectives still tend to agree that successful adult second language acquisition (SLA) depends on learners noticing and paying attention to aspects of the target language (Long, 1996; Swain & Lapkin, 1998; Swain et al., 2009; Van Patten, 2004). Moreover, scholars working in the sociocultural theory tradition have contended that social interaction can help optimize learners’ attention to aspects of the target language (Long, 1996; Swain & Lapkin, 1998). In general, SLA researchers often have emphasized the centrality of attention in adult SLA (Schmidt & Frota, 1986; Rosa & Leow, 2004; Schmidt, 2001). For instance, Schmidt (2001) claimed that “attention is necessary in order to understand virtually every aspect of second language acquisition (SLA)” (p. 3). Similarly,
Mitchel et al. (2013) asserted that “there is general agreement that noticing is beneficial,” adding that “even studies that demonstrate that implicit learning can happen also provide indirect support for the benefits of conscious awareness” (p. 148). Even though attention is important for successful SLA, researchers also agree that anxiety can greatly interfere with the functioning of attention during language learning (Mitchell et al., 2013). In fact, recent brain science research on the mechanism of attention during learning has shown that anxiety can greatly obstruct the efficient operation of attention during various kinds of learning tasks (Derakshan & Eysenck, 2009; Eysenck et al., 2007; Sari et al., 2017).

According to Eysenck et al.’s (2007) attentional control theory, anxiety exerts a negative influence on learning by way of an indirect effect on the brain’s central executive. The central executive is responsible for switching attention, focusing attention, and updating working memory, and it includes two important subsystems: The top-down goal system, which is responsible for managing current goals and the bottom-up system that responds to salient stimuli in the immediate environment (Eysenck et al., 2007). In their theoretical framework, Eysenck et al. claimed that Anxiety can disturb the balance between these two systems, allowing the bottom-up stimuli to have a greater effect during tasks performance. In addition, individuals who are prone to states of anxiety have a bias for a threat response which increases the possibility that they will interpret bottom-up processed stimuli as threats (Eysenck et al., 2007). In other words, anxiety can lead to a suboptimal focus on task irrelevant stimuli that the learner often interprets as threatening.

Research using the attentional control theory framework has shown that anxiety can impair academic task performance. For instance, Derakshan and Eysenck (2009) pointed out that anxiety-prone individuals often have difficulty inhibiting both internal stimuli, such as negative
thoughts, and task-irrelevant external stimuli. For example, a study by Calvo and Eysenck (1996) found that high-anxiety participants performed inferior to low-anxiety participants on a reading comprehension task that included distracting words. In a later study by Sari et al. (2017), the authors found that participants’ levels of worry and anxiety negatively correlated with working memory capacity and task performance. Researchers also have noted that writing anxiety can limit learners’ ability to pay attention and notice important features of feedback during text construction (Long, 1996; MacIntyre & Gardner, 1994; Zabihi, 2018). In other words, if learners experience increased levels of anxiety during writing tasks, they also could have difficulty attending to and remembering the spoken and written feedback needed to improve their writing. As Schwabe and Wolfe (2010) pointed out, stress during learning could interfere with long-term memory, decreasing learners’ ability to recall concepts later. Thus, anxiety also could inhibit learners’ ability to convert the feedback from social interactions to long-term memory for later independent use. Although anxiety can hinder language learning, evidence indicates that learners who effectively leverage social resources can decrease their anxiety and perform better on measures of language learning achievement (Iksan & Halim, 2018; Jiang, 2015).

**Interaction in the Zone of Proximal Development**

Interaction with more capable performers is a core component of the sociocultural theory of learning. According to Vygotsky (1978) this interaction occurs within a zone of proximal development (ZPD), which refers to the difference between a learner’s independent performance capabilities (i.e. the actual developmental level) and what the learner is capable of with the assistance of a more capable peer or teacher (i.e. the proximal developmental level). The ZPD is the locus where learners manage their emotions while directing their attention to the linguistic resources available through interaction with peers and teachers. Second language acquisition
researchers working within the SCT tradition have used the concept of the ZPD to explain how learners leverage social resources such as peer and teacher interaction to support language development (Mitchel et al., 2013). For instance, SCT researchers have examined how novice language learners use expert peer and teacher support within the ZPD to gradually gain independent control over certain target language forms (Aljaafreh & Lantolf, 1994; Lantolf & Aljaafreh, 1995; Swain & Lapkin, 1998, 2002). Specifically, more expert peers can help direct a novice learner’s attention to features of the target language that are outside the novice learner’s actual developmental level but still within the novice learner’s ZPD (Swain & Lapkin, 2002).

Furthermore, research on peer work in second language classrooms has indicated that peer work can help reduce the level of language learning anxiety that learners experience (Iksan & Halim, 2018; Jiang, 2015). Thus, social support that operates within the learner’s ZPD can help mitigate language learning anxiety and serve as an important scaffold for language acquisition.

Researchers in the field of SLA have investigated methods to help mitigate the damaging effects of second language anxiety. Current studies have indicated that promoting certain forms of classroom social interaction and facilitating mindfulness can help learners reduce their anxiety levels and produce more effective texts (Britt et al., 2018; Iksan & Halim, 2018; Jiang, 2015).

Figure 2 below provides a visualization of how anxiety and other factors interact to influence student text production. Subsequent sections of this chapter provide an overview of interventions that used collaborative writing, mindfulness, and peer review as methods to help reduce learners’ anxiety and improve their academic writing.
Figure 2

Conceptual Framework for Effect of Anxiety on Acquisition of Second Language Writing
Collaborative Writing

Defining Collaborative Writing

Collaborative writing is one method that capitalizes on the nature of the ZPD and the social nature of learning. Research shows that this method can help decrease writing anxiety, increase self-efficacy, and improve the quality of student writing (Cho & Lim, 2017; Jiang, 2015; Shehadeh, 2011; Storch, 2005). Appendix C provides a summary of these and other intervention studies reviewed in this chapter. Collaborative writing refers to the process by which two or more students jointly compose the same text, and it involves the students working together on all stages of the writing process (Dobao, 2012; Storch, 2005). While it is common in contemporary language instruction classrooms for peers to collaborate during brainstorming and final draft editing, it is less common for peers to collaborate during other stages in the writing process, such as outlining and drafting (Dobao, 2012; Shehadeh, 2011). Several studies have shown that students benefit from collaborative writing because it enables students to co-construct knowledge within their ZPD, allowing them to take risks and focus on all stages of the writing process (Dobao, 2012). Research also has shown that when students receive feedback from peers they feel less anxious receiving this feedback (Woodrow, 2006b). In addition to helping decrease writing anxiety, studies on collaborative writing have found other important benefits to collaborative writing. For instance, studies have shown that collaborative writing helps students to “pool their linguistic resources,” enabling learners to scaffold each other and support higher levels of development than would be possible independently (Wigglesworth & Storch, 2009, p. 447). In addition, Storch (2005) argued that collaborative writing helps remove the pressure that students normally face when they have to make important writing decisions privately.
Approaches to Collaborative Writing

Studies on collaborative writing have taken a variety of approaches to facilitating the joint construction of texts among students. One important variable includes the choice of how to group students for the writing task. The most common method of grouping students in studies of collaborative writing is pair grouping (Shehadeh, 2011; Storch, 2005; Swain & Lapkin, 1998). The second most common method of grouping students is to arrange students in groups of four. Both Jiang (2015) and Dobao (2012) organized students into groups of four. In fact, Dobao conducted her study with the goal of determining whether pairs or groups of four produced better collaborative texts. Participants in Dobao’s study included intermediate-level undergraduate Spanish language learners at a U.S. university. The study involved 21 students who worked alone, 30 students who worked in pairs, and 60 students who worked in groups of four. The researcher found that group participants produced more accurate texts than individuals and pairs and these differences were statistically significant at the .05 level or lower. Furthermore, group participants produced significantly more language related episodes (i.e. languaging) than pair participants, which Dobao concluded was evidence that groups were able to draw on more linguistic knowledge and better scaffold each other. In another study of collaborative writing, Wette (2015) documented a different in which teachers modeled text construction and jointly composed a text with students. Despite the observed benefits for collaborative writing, researchers have found a significant variation in the amount of language related episodes that students produce in addition to evidence that not all students contribute equally to the text composition (Leki, 2007; Storch, 2005; Wigglesworth & Storch, 2009).

Studies also took different approaches to the quantity of texts that students produced and the timeframe for the collaborative writing tasks. Several studies involved students composing a
single academic paragraph under timed conditions (Dobao, 2012; Storch, 2005; Wigglesworth & Storch, 2009). However, Shehadeh (2011) critiqued the use of a single text approach, claiming that student familiarity or lack of familiarity with the topic could bias the results. As a result, Shehadeh conducted a study in which English as a Foreign Language (EFL) students composed multiple paragraph-length texts throughout a twelve-week instructional term. Another unique element of Shehadeh’s study is that the teacher in the study provided written corrective feedback to students in the control and treatment groups in the hope of providing consistent feedback to both groups. In a similar study, Jiang (2015) had adult EFL students compose multiple short paragraphs over the course of an academic semester as part of an English course at a Chinese trade college. A unique aspect of Jiang’s study was the incorporation of a month-long preparation phase in which the experimental group learned about cooperative learning and built rapport with one another. While most studies examined the collaborative composition of paragraphs, one study by Cho and Lim (2017) investigated the effects of the group collaborative composition of an academic research paper by domestic students in a U.S. undergraduate course. Studies have found several positive effects for collaborative writing that are discussed in the next section.

**Effects on Writing Anxiety and Self-efficacy**

Some of the most relevant benefits of collaborative writing include potential benefits for decreasing students’ writing anxiety and increasing their writing self-efficacy (Cho & Lim, 2017; Dobao, 2012; Jiang, 2015). Using an experimental mixed methods design, Jiang (2015) investigated the effect of collaborative writing on Chinese EFL students’ experiences of second language writing anxiety and their writing achievement. This is an important study because it is the only collaborative writing intervention study that employed the Second Language Writing
Anxiety Inventory and used a rigorous experimental design. In addition, the research design was robust: It included an experimental design with an intervention that involved multiple text compositions over the course of an extended period. The instruments for the study included a pre-post-intervention Second Language Writing Anxiety Inventory survey, and semi-structured student interviews. Students in the treatment condition worked together to complete seven different paragraphs over the course of a semester. Each treatment group member had a chance to perform one of four roles during the course: Note taker, first draft writer, note taker for revisions, and final draft writer. The study involved four steps in the writing process, which included planning, drafting, revising, and editing. Following the intervention, the experimental group’s responses on the post-test Second Language Writing Anxiety Inventory indicated a significant decrease in overall level of writing anxiety ($p < .001$). In addition, the experimental group in Jiang’s study had a significant increase in their post-intervention scores on the writing test, but the control group did not.

Other research on collaborative writing has found benefits for self-efficacy, writing anxiety, and improved risk-taking (Cho & Lim, 2017; Jiang, 2015; Shehadeh, 2011). Cho and Lim (2017) sought to determine whether an intervention to provide scaffolded self-regulation would improve students’ collaboration on a research paper that was jointly composed through a wiki. The study involved 18 U.S. undergraduate students working in groups of four to complete a research essay over the course of five weeks. Each week, students completed journal entries to report their individual self-regulation and group-regulation activities, including review of goal setting, monitoring of progress, and evaluation. The authors found a significant treatment effect ($d = 0.31, p = .018$) on self-efficacy for using writing strategies in addition to a significant treatment effect ($d = 0.32, p = .025$) for decreasing writing anxiety. Cho and Lim also observed a
positive correlation for writing strategy self-efficacy and wiki participation \((r = .45, p < .05)\) and a negative correlation between writing anxiety and participation \((r = - .48, p < .05)\). Similarly, Shehadeh (2011) found that the majority of students who participated in collaborative writing expressed that the intervention increased their writing self-efficacy. Shehadeh’s interviews also revealed that students who worked in pairs became less afraid of making mistakes and taking risks with their writing. Likewise, Jiang’s (2015) qualitative interviews also indicated that students who worked in groups felt less afraid to make mistakes. Jiang reported that the most common advantage to collaborative writing that was expressed during participant interviews was that it helped create a “humiliation free environment” (p. 177). Finally, Jiang concluded that working in groups enabled students to operate with shared risks that helped immunize them to individual embarrassment, which can be a particular challenge for Chinese and other collectivist societies.

**Effects on Writing Quality**

While collaborative writing appears to have certain affective benefits for students, studies also have shown that this approach is associated with improvements to the quality of student writing (Dobao, 2012; Storch, 2005; Wigglesworth & Storch, 2009). Beginning with Storch (2005), most researchers have attempted to examine the effects of various iterations of collaborative writing on the complexity, accuracy and fluency of student texts. Most researchers have found that learners working collaboratively produce more accurate texts but less fluent texts (i.e., longer texts) than students working alone (Dobao, 2012; Storch, 2005; Wigglesworth & Storch, 2009). Storch’s early study included some potential design weaknesses such as having the researcher teach both comparison groups, which could have resulted in the researcher sharing aspects of the intervention with the control group, thus contaminating the control. Later studies,
such as Wigglesworth and Storch (2009) appeared to remedy this issue by having participants complete the intervention tasks outside of class time in separate groups. For instance, Wigglesworth and Storch (2009) conducted a study to compare the effects of individual and pair collaborative writing on the quality of argumentative essays. Participants for the study were primarily international graduate students at an Australian university, and there were 48 students in both the treatment group and control group. Both groups composed a timed academic essay outside of class time in two different groups and settings. The researchers found that there was not a significant difference in complexity or fluency between the two groups, but treatment group participants produced more accurate texts. Contrary to most studies (Dobao, 2012; Storch, 2005; Wigglesworth & Storch, 2009), Shehadeh (2011) did not find an increase in grammatical or mechanical accuracy in the treatment group’s post-test paragraphs. However, Shehadeh acknowledged that this finding could have been due to a lack of sensitivity of the measurement instrument, which seems likely since Shehadeh used a holistic rubric to rate the texts as opposed to quantifying the number of error-free segments of text as in other studies (Dobao, 2012; Storch, 2005; Wigglesworth & Storch, 2009). Since multiple authors have reported similar positive effects of collaborative writing on writing anxiety and writing quality, it seems reasonable to trust the findings of these studies (Dobao, 2012; Storch, 2005; Wigglesworth & Storch, 2009).

**Limitations and General Advantages**

There are a couple of important limitations to collaborative writing interventions that should be considered. One potential concern about collaborative writing is whether the collaborative writing performance gains transfer to individual work. Several studies have considered this issue and provided some evidence that the grammatical forms that students learn during collaborative writing also transfer to individual writing (Jiang, 2015; Swain & Lapkin,
For instance, Swain and Lapkin (1998) observed a novice French writer who was learning how to correctly use the French reflexive verb while working with a peer. On a pre-test, this novice writer incorrectly answered items that involved the target form, but the same student was able to gradually use the form correctly during a collaborative writing task with an expert peer. Moreover, the novice also correctly answered items on the post-test that measured understanding of the same target grammatical form. This result provided evidence that the expert peer scaffolding enabled the novice student to fully internalize the target language form such that he was able to correctly use the language independently on the post-test. The post-test results of Swain and Lapkin’s study provide convincing evidence that collaborative learning could transfer to individual tasks.

Other researchers have observed that groups engaging in collaborative writing can occasionally result in some learners performing little to no work for the group (Leki, 2007; Shehadeh, 2011). One way to counteract this possibility, according to Jiang (2015), is by assigning rotating group roles and by giving group grades. This approach can help hold all students accountable for participating in the text collaboration. Despite a few apparent limitations to collaborative writing interventions, studies that have used this approach generally report broad benefits for this method of writing instruction. In summary, some of the salient benefits for collaborative writing include the following: collective sharing of risk-taking, improvement of anxiety and self-efficacy, improvement of text accuracy, and transfer of learning to individual performance (Cho & Lim, 2017; Jiang, 2015; Swain & Lapkin, 1998).
Mindfulness-based Interventions

Defining Mindfulness

Mindfulness can refer to a fairly broad set of intervention practices, which studies have shown to be effective for reducing anxiety in adult postsecondary populations (Pascoe, et al., 2017; Yusufov et al., 2018). Most theoretical definitions of the term incorporate two key elements: an attentional awareness of the present moment and a non-judgmental attitude towards personal experiences. According to Fallah (2017) mindfulness is “an awareness of internal emotions, thoughts, and experiences occurring in the current moment in an accepting and nonjudgmental manner” (p. 751). Furthermore, most researchers reference the ancient Eastern religious origins of mindfulness practices. For instance, Britt et al. (2018) claimed that contemporary approaches to mindfulness originated with ancient Asian religious practices aimed at reducing emotional pain that comes from unhealthy thinking. More specifically, Kang et al. (2009) claimed that Buddhist Vipassana meditation (also known as insight meditation in the West) is the historical basis for most contemporary mindfulness practices, including Mindfulness Based Stress Reduction, which is the most common therapeutic form of meditation.

Variations of Mindfulness Interventions

Researchers have taken a variety of approaches to mindfulness interventions for anxiety reduction, yet all of these interventions have focused on helping students cultivate awareness of the moment in a relaxed non-judgmental setting (Britt et al., 2018; Yusufov et al., 2018). Furthermore, most mindfulness interventions employ the Mindfulness-Based Stress Reduction (MBSR) approach developed by Kabat-Zinn (1994). While there are numerous variations to this approach, the core elements of MBSR include insight meditation, focus on breath, and non-judgmental awareness of the present (Britt et al., 2018; Kabat-Zinn, 1994). Also common to
many mindfulness interventions is the use of structured group activities to facilitate engagement in mindfulness exercises (Britt et al., 2018; Hjeltnes et al., 2015; Kang et al., 2009; Tang et al., 2007). The apparent success of such group-based interventions exemplifies the social interactions involved in changing thought processes that is fundamental to sociocultural theory.

Other differences in mindfulness studies include variations to the intervention context, the use of mindfulness coaches, and the length of engagement in the mindfulness exercises. While most mindfulness intervention exercises occur outside of class time, one study by Britt et al. (2018) integrated mindfulness practices as part of a college writing course class time. Most mindfulness intervention studies used audio recordings instead of live instruction to guide participants in the mindfulness exercises (Britt et al., 2018; Hjeltnes et al., 2015; Kang et al., 2009; Tang et al., 2007). That said, most interventions also employed a trained mindfulness coach who lead follow up activities, such as group discussions, reflection exercises, and individual participant feedback (Dundas et al. 2016; Kang et al., 2009; Tang et al., 2007). One important distinguishing feature of mindfulness interventions involves the amount of time participants engaged in mindfulness exercises. For instance, the mindfulness exercises in Kang et al. (2009) and Hjeltnes et al. (2015) lasted for one to two hours during weekly group intervention meetings. On the other hand, Tang et al. (2007) and Britt et al. (2018) showed that much shorter mindfulness exercises of one to 20 minutes also could be effective for reducing participants’ anxiety. For instance, Britt et al. (2018) had participants listen to brief audio recordings (two-four minutes) of guided mindfulness breathing exercises prior to engaging in normal writing class tasks.
Effects on Anxiety

Numerous studies over the last 30 years have provided convincing evidence that mindfulness-based interventions can successfully reduce the psychological and physiological experiences of anxiety among postsecondary students (Pascoe et al., 2017; Yusufov et al., 2018). Most of these studies examined the effects of mindfulness interventions on anxiety levels for a wide variety of international and domestic populations of graduate and undergraduate students (Pascoe et al., 2017; Yusufov et al., 2018). In addition, the majority of studies used quantitative methods with a randomize controlled trial (RCT) pre-test, post-test design (Britt et al., 2018; Kang et al., 2009; Tang et al., 2007; Yusufov et al., 2018). The instruments for these studies usually included pre- and post-intervention psychological assessments of anxiety, and some studies also incorporated pre- and post-intervention measurements of physiological markers for stress, such as salivary cortisol levels (Pascoe et al., 2017; Tang et al., 2007; Yusufov et al., 2018).

Researchers generally have found that MBSR interventions are associated with statistically significant decreases in anxiety levels for postsecondary students (Yusufov et al., 2018). For instance, Yusufov et al. (2018) conducted a meta-analysis of 43 empirical studies to determine the effects of different interventions on stress reduction for undergraduate and graduate students. The researchers found a medium aggregated effect size for MBSR interventions for anxiety ($d=0.50, p<.01$), but the authors observed that there was not a significant effect for participants’ level of study or the duration of the intervention. In another meta-analysis, of 45 RCT studies on the effects of mindfulness, Pascoe et al. (2017) concluded that mindfulness interventions effectively decreased physiological markers of stress, such as cortisol levels, heart rate, and blood pressure.
An influential study by Tang et al. (2007) incorporated both psychological and physiological measures. The authors conducted an RCT study to investigate the effects of mindfulness training on the attention regulation and emotions of undergraduate students at a Chinese university. Participants in the study included a control group and experimental group with 40 Chinese undergraduate students in each group. Participants in both groups completed a pre-test and post-test anxiety assessment. Tang et al. observed a statistically significant effect of treatment for decreasing the self-reported anxiety of participants \([F(1,78)=11.920; p<0.01]\). The researchers also had a sub-sample of participants complete a stress-inducing math problem, which was followed by 20 minutes of mindfulness practice for the treatment group. In addition, researchers collected saliva samples from participants to measure cortisol levels. Cortisol is a stress hormone produced in response to stress, so measuring cortisol levels is one effective method of objectively measure participants’ stress levels. The researchers found that the treatment group participants who engaged in mindfulness exercises following the math stressor had significantly lower salivary cortisol levels than the control group \([F(1,38)=6.281; p<0.01]\).

The results of this study appear to be trustworthy due to the RCT method and the researchers’ use of multiple measures of dependent variables related to anxiety, which helped triangulate the data and support a conclusion that the treatment helped decrease participants’ anxiety. Other studies, such as Kang et al. (2009) and Chen et al. (2013) also found statistically significant decreases in measures for postsecondary student anxiety following mindfulness interventions.

Despite the apparent benefits of mindfulness training for reducing anxiety in postsecondary student populations, few studies have attempted to examine the connection between mindfulness and second language anxiety. Fallah (2017) was the only study identified that explored this connection. Fallah conducted an exploratory quantitative study with the aim of
evaluating the potential connection between mindfulness, coping self-efficacy, and foreign language anxiety among EFL students. The study utilized a convenience sample of 295 participants who were all undergraduates studying in English courses at an Iranian university. Measurement instruments in the study included three previously validated surveys: Horwitz’s (1986) Foreign Language Anxiety Scale (FLAS), the Coping Self-Efficacy Scale (CSES), and the Mindful Attention Awareness Scale (MAAS). The data analysis results indicated a significant positive correlation between Mindfulness and Coping Self-efficacy ($r = .47, p < .001$). In addition, Fallah observed a significant negative correlation between mindfulness and foreign language anxiety ($r = -.22; p < .001$) and a significant negative correlation between coping self-efficacy and foreign language anxiety ($r = -.28; p < .001$). These results supported Fallah’s conclusion that increased levels of mindfulness in students was associated with higher coping self-efficacy, and this higher coping self-efficacy was associated with lower levels of foreign language anxiety. As a result, Fallah argued that mindfulness could help learners stay focused and better utilize coping strategies that could help them limit distracting thoughts and resolve anxious thoughts and emotions. This study appears trustworthy because the author used three well-established survey instruments, and the author employed a reasonably large and diverse sample size. However, since this was not a controlled experimental study, it is not possible to claim a causal relationship among the variables.

While no studies were identified that dealt specifically with ELL writers who struggled with writing anxiety, one study by Britt et al. (2018) examined the effects of a mindfulness intervention for U.S. community college students’ who were experiencing writing anxiety. Participants in the study were 277 community college students who were attending 12 different sections of a transfer-level English Composition 101 course. It is unclear whether any of the
participants were ELLs. This was an RCT with an experimental group that consisted of six sections of the English Composition 101 course and a control group that consisted of six sections of the same course. The study involved a pre-test, post-test design in which participants completed the Daly-Miller Writing Apprehension Test (WAT) and a timed narrative essay. Using ANCOVA to control for baseline differences in anxiety and writing quality, Britt et al. (2018) found that participants in the treatment group had significantly lower writing apprehension levels than the control group. In addition, the researchers also found that the treatment group participants produced a statistically significant fewer number of text errors than the control group even when the authors controlled for participants’ baseline rate of errors. However, the authors did not observe any statistically significant difference in the text length between the two groups.

One issue with this study was the lack of clarity about participant demographics, including whether ELLs participated in the study. As a result, it was unclear whether the results of the study could be generalized to English as a Second Language (ELL) populations. Nevertheless, Britt et al. (2018) argued that similar interventions could be beneficial for students who are taking developmental English classes (e.g. ELL classes). In addition, the statistical control for baseline levels of anxiety and writing ability made this study particularly robust.

Mindfulness intervention studies also have shown that mindfulness could have a positive influence on attentional control (Hjeltnes et al., 2015; Tang et al., 2007). As illustrated in the conceptual framework earlier in this chapter (see figure 2), anxiety likely exerts a disruptive effect on attention regulation, making it difficult for learners to focus on linguistic input (Derakshan & Eysenck, 2009; Liston et al., 2009; Schwabe & Wolf, 2010). As Derakshan and Eysenck (2009) argued, anxiety interferes with attention primarily by making it difficult to avoid
paying attention to irrelevant thoughts and by making it more difficult to shift attention efficiently to the relevant aspects of tasks. Several mindfulness intervention studies have found that mindfulness practices can help address these very challenges (Hjeltnes et al., 2015; Tang et al., 2007). For instance, Tang et al. (2007) conducted an RCT that involved a mindfulness intervention and a computer-based pre-test and post-test of the Attention Network Test (ANT), which measures participants’ ability to regulate and shift their attention. Tang et al. found that mindfulness training resulted in a statistically significant improvement of attentional control through executive function in the treatment group \( F(1,78) = 9.859; P<0.01 \). In a qualitative study, Hjeltnes et al. (2015) analyzed the individual experiences of students who participated in a mindfulness intervention. One finding was that the intervention helped students maintain their focus on academic tasks. In fact, Hjeltnes et al. claimed that participants reported being able to transfer strategies from mindfulness training to learning situations in order to manage distracting thoughts and anxiety.

**Limitations to Mindfulness Studies**

While there appears to be extensive evidence for the benefits of mindfulness interventions for reducing anxiety, there are a few important limitations to consider. One main limitation of many mindfulness intervention studies is their general lack of measures for academic performance. For instance, Hjeltnes et al. (2015) designed a study to examine the effectiveness of mindfulness training for treating students’ postsecondary academic evaluation anxiety. Although the authors claimed that the treatment helped students use mindfulness strategies in exam settings, the authors did not report whether the students could attribute the training to any improvement in their academic performance. On the other hand, one study by Britt et al. (2018) did incorporate a measure of writing quality in their study of a mindfulness
intervention for community college writing 101 classes, finding that the intervention was associated with fewer text errors for the treatment group. Another potential limitation to most mindfulness studies was the lack of discussion about how researchers addressed potential religious objections to the practice.

Despite the increasingly common use of mindfulness as a secular practice, it is quite possible that students and teachers would have religious-based objections to practicing mindfulness. In their study, Britt et al. (2018) acknowledged that the religious origins of mindfulness practices could pose some challenges for researchers attempting to implement mindfulness interventions in public schools. In fact, the authors noted that some participants “expressed reservation about participating in meditation-like activities” (p. 704). Other limitations to using mindfulness as an intervention for second language writing anxiety involves the dearth of studies that deal with ELL populations. While all of the studies reviewed in this chapter section involved postsecondary students in international settings, no studies were identified that specifically used mindfulness as an intervention for writing anxiety among ELLs. However, given the compelling evidence for the benefits of mindfulness interventions for reducing general academic anxiety, it appears promising that similar results could be achieved in ELL populations (Pascoe et al., 2017; Yusufov et al., 2018). Nevertheless, researchers would need to take caution and be sure to account for the unique backgrounds of ELL students before implementing a mindfulness intervention with this population.

**Peer Review**

**Defining Peer Review**

Peer review is another approach to writing instruction that studies have shown to be effective for reducing writing anxiety and improving writing quality among ELLs (Choi, 2013;
Peer review is an important aspect of the writing process that involves co-equal students working together to provide feedback on a variety of textual elements with the purpose of revising and improving those texts. Kurt and Atay (2007) explained that peer review is a method of facilitating a more active role for students during negotiation and response to text feedback. According to Jahin (2012) peer review is a process in which students of equal status not only edit each other’s essays but also “respond to what the essay says as well as how it says it” (p. 66). Research by Cho and Cho (2011) detailed the variety of feedback options that learners use during peer review, and the authors developed a taxonomy to describe these feedback options. The researchers categorized the types of reviewer comments according to strengths and weaknesses in the following areas: Surface features of the text, paragraph-level meaning issues, and whole-text level meaning issues (Cho & Cho, 2011). As a result, peer review of writing can focus on a broad range of text features. In addition, the peer review process involves student interaction that is mediated through review and revision of texts, which can help establish authentic classroom learning tasks (Kurt & Atay, 2007; Lantolf & Thorne, 2006). Thus, peer review incorporates many of the key factors for text production described in the conceptual framework, including social learning that involves attention to text elements, negotiation of feedback, and the dialogic construction of texts.

**Approaches to Peer Review Interventions**

Researchers have experimented with various approaches to peer review to determine how these approaches affect writing anxiety and writing quality. One important variable for studies of peer review is the role of the teacher and peers in the intervention. For instance, in many studies a control group received only teacher feedback while a treatment group only received peer
feedback (Iksan & Halim, 2018; Jahin, 2012; Kurt & Atay, 2007). However, a study by Choi (2013) included a treatment group that received both teacher and peer feedback and a control group that only received teacher feedback. Choi (2013) and Kurt and Atay (2007), argued that peer feedback is most effective when used as a supplement for teacher feedback because each approach has different strengths and weaknesses.

Another variation for peer review interventions relates to whether the peer review is computer mediated or not. For instance, Iksan and Halim (2018) used a wiki as a platform for peers to provide feedback while Choi (2013) and Cho and Cho (2011) used an online software that facilitated all stages of an anonymous peer review process. Although some variation exists in the approach, all of the peer review interventions that were reviewed incorporated use of a review checklist and/or rubric.

Several researchers provided holistic rubrics, which participants, and sometimes expert raters, used to score the peer review texts (Cho & Cho, 2011; Jahin, 2012; Kang et al., 2009). A slightly different approach found in Kurt and Atay’s (2007) study involved creating unique checklists for each essay assignment, and these checklists consisted of a series of guiding questions that encouraged reviewers to focus on specific aspects of the text. Similarly, Jahin (2012) also provided participants with a checklist to focus their review of text elements. Another important aspect of many peer review interventions is the role that learner training plays in the intervention. According to Kurt and Atay (2007), “Training is a prerequisite for successful use of peer feedback” (p. 16). Many of the interventions began by requiring participants to review model texts and use rubrics or checklists to practice reviewing and making comments on the model texts during class time (Choi, 2013; Jahin, 2012; Kurt & Atay, 2007). In addition, some studies provided time for in-class role-playing of peer review feedback, which gave students the
opportunity to practice giving and receiving feedback related to a model text (Jahin, 2012; Kurt & Atay, 2007).

**Effects on Writing Anxiety and Writing Quality**

Numerous studies found that interventions involving peer review were associated with significant reductions in ELLs’ levels of second language writing anxiety (Choi, 2013; Iksan & Halim, 2018; Jahin, 2012; Kurt & Atay, 2007; Yastıbaş & Yastıbaş, 2015). All of these studies used a pre-test, post-test design that included administration of Cheng’s (2004) Second Language Writing Anxiety Inventory. Numerous studies found significant decreases in the pre-posttest scores on the Second Language Writing Anxiety Inventory for treatment group participants (Choi, 2013; Iksan & Halim, 2018; Jahin, 2012; Kurt & Atay, 2007; Yastıbaş & Yastıbaş, 2015). Furthermore, several quasi-experimental studies found that treatment groups experienced greater decreases in levels of Second Language Writing Anxiety than control groups following the intervention (Choi, 2013; Jahin, 2012; Kurt & Atay, 2007).

Several studies also measured the effect of peer review on the quality of participants’ writing and found that peer review interventions also helped increase the quality of participants’ writing based on pre-posttests of writing (Choi, 2013; Jahin, 2012). A study by Choi (2013) provided a pre-post intervention test of participants metacognitive writing knowledge, or their ability to accurately assess the quality of writing. Choi’s results indicated a significant increase for the treatment group in metacognitive knowledge of writing. The ability to accurately judge the quality of one’s own writing and that of others seems to be a particularly important skill for knowing when additional improvement is needed for a text. In sum, multiple studies have indicated that peer review is an effective intervention for improving not only Second Language Writing Anxiety but also the quality of academic writing.
Several peer review intervention studies have compared participants who received peer text feedback with other participants who only received writing feedback from a teacher (Iksan & Halim, 2018; Jahin, 2012; Kurt & Atay, 2007). For instance, Jahin (2012) conducted a quasi-experimental quantitative intervention study to explore the effects of peer review on the writing anxiety and writing proficiency of pre-service English as a foreign language (EFL) teacher at a Saudi Arabian university. Participants in both the treatment and control groups completed and revised three different academic essays over the course of an academic semester. Jahin found that treatment group participants experienced significant decreases in writing anxiety \((p<.01)\) as measured by their pre- and post-intervention scores on the Second Language Writing Anxiety Inventory. Jahin also reported significant increases in treatment group participants’ writing proficiency \((p<.01)\) based on a pre-posttest of writing proficiency. Additionally, there was a statistically significant difference in the Second Language Writing Anxiety Inventory post-test between the control and treatment group \((p<.01)\) in the study, indicating that participants who engaged in peer review improved their anxiety levels while the control group participants did not.

Similarly, Kurt and Atay (2007) conducted a quasi-experimental study that included a control group of 42 Turkish university students in an advanced writing class and an experimental group of 44 students in a different advanced writing class. First, participants in the experimental group received training and practice on using a peer review checklist. Next, participants in both the control and experimental groups wrote and revised five different academic essays over eight weeks. After composing their essays in class, the experimental group participants worked in pairs and used an assignment-specific checklist to guide their delivery of oral feedback to their peer. The teacher monitored students’ progress but did not provide feedback. This study
incorporated a pre- and post-test of the Second Language Writing Anxiety Inventory in addition to brief structured interviews with a subsample of 20 treatment group participants after the intervention. Following the intervention, Kurt and Atay (2007) found that participants in the treatment group had a greater decrease in mean reported anxiety than control group participants, and this difference was statistically significant ($P<.05$). The qualitative interview data in this study illuminated ways that peer review can help mitigate the effects of writing anxiety. For instance, the majority of interviewees (15/20) found peer review helpful, and interviewees explained that the peer review helped them locate mistakes, develop ideas, clarify ideas, develop a new perspective, lower anxiety, and build confidence.

While most peer review intervention studies involved comparing teacher versus peer feedback, Choi (2013) conducted a quasi-experimental study to determine whether the combination of peer feedback and teacher feedback would be more beneficial than teacher feedback alone. Participants in Choi’s study included 75 EFL students who were studying in a college-level English class at a Korean university. The study used a quasi-experimental design with a treatment group that received both teacher and peer feedback and a control group that received only teacher feedback. The authors found a significant effect of the treatment on writing anxiety ($F=4.04, P=.05, ES=.01$), and they observed a significant effect of treatment on L2 metacognitive knowledge ($F=8.77, P=.00, ES=.02$). In other words, the results indicated that students receiving both peer and teacher feedback experienced a significantly greater decrease in levels of second language writing anxiety and a significantly higher increase in metacognitive knowledge of English writing than students who only received teacher feedback. The researchers also observed that the treatment group students provided very little negative corrective feedback, or suggestions for revisions, to their peers during the intervention, which led Choi to surmise that
the positive effects of the treatment likely resulted from the process of providing feedback as opposed to receiving feedback. This finding is in line with Cho and Cho’s (2011) results, which indicated that the quantity and type of peer feedback that a student provided was the best predictor of the quality of participants’ writing. However, it is important to note that all of the students in Cho and Cho’s study except one were native speakers of English, so the study findings might only have very broad implications for ELLs. Nevertheless, both Cho and Cho (2011) and Choi (2013) concluded that an important function of peer review is that it helps students develop a sense of audience through exposure to the strengths and weaknesses of other’s writing. Several authors concluded that peer review functions optimally when it is combined with regular and timely feedback from a teacher (Cho & Cho, 2011; Choi, 2013; Kurt & Atay, 2007).

**Limitations and General Advantages**

Although researchers have noted numerous benefits to peer review for ELLs, researchers also have pointed out a few important limitations to this approach that merit consideration. One important limitation is that learners tend to provide mostly positive feedback to their peer review partners (Choi, 2013; Jahin, 2012; Kurt & Atay, 2007). For instance, Choi (2013) noted that students gave their partners more positive feedback on writing than teachers did, and students were more likely to use teacher feedback to make text improvements. One way to ensure more balanced feedback, according to Jahin (2012), is to provide students with a checklist to guide their text reviews. In addition, enabling students to conduct their review anonymously could help them feel more comfortable giving critical feedback to their peers. Studies by Choi (2013) and Cho and Cho (2011) provide examples of interventions that employed anonymous peer feedback. Also, supplementing student feedback with teacher feedback could help ensure that students
receive positive and negative feedback on a broad range of text aspects (Choi, 2013). Finally, some researchers also have found that not all students receive useful feedback from their peer reviewers (Kurt & Atay, 2007; Yastibaş & Yastibaş, 2015). For instance, Yastibas and Yastibas (2015) noted that students who have lower writing skills can struggle to provide useful feedback to their peers. However, Yastibas and Yastibas’ conclusions need to be considered with caution due to potential study design weaknesses such as a small sample size of 16 participants and a lack of control group. Additional evidence of limitations for lower-level students comes from Kurt and Atay (2007) who noted that students with low motivation do not always provide enough detailed feedback for their peers.

One potential solution to the feedback quality issue could be to require students to work with different peer review partners during the intervention, which might increase the likelihood of students having a partner who provides useful feedback. Another solution could involve requiring teacher feedback in addition to peer feedback, which would ensure that students receive feedback on the most important aspects of their texts. Also, students could conduct multiple, shorter peer reviews before receiving teacher feedback. This approach would maximize students’ skill practice while reserving teacher feedback for final drafts and the most important writing issues. Despite the aforementioned challenges to implementing peer review interventions, peer review holds the greatest promise for helping address learner difficulties with writing anxiety and writing proficiency. As the next section details, peer review is the most efficacious intervention choice for multiple reasons. These reasons include the ease with which peer review can be implemented within the existing curriculum, the external validity and transferability of prior peer review intervention studies, and the familiarity of peer review to teachers and students. In addition, there is evidence that peer review is effective for increasing
the level of enjoyment of the writing process, which can address students’ writing avoidance behaviors. In sum, studies have shown that peer review is one of the most effective methods for significantly decreasing ELLs levels of writing anxiety and improving the quality of their writing while facilitating their ability to write for an authentic audience (Choi, 2013; Jahin, 2012; Kurt & Atay, 2007).

Selection for Intervention: Peer Review

While all three categories of interventions have benefits for treating anxiety in ELL writers, peer review has the most extensive evidence for its beneficial effect on second language writing anxiety. As can be seen in Appendix C, peer review intervention studies were the only studies that consistently focused on postsecondary ELL populations. In addition, the peer review intervention studies were the only studies to consistently use Cheng’s (2004) Second Language Writing Anxiety Inventory instrument, which also was used in the needs assessment study for this dissertation. Furthermore, the peer review studies all utilized a variety of study designs, including experimental, quasi-experimental, and non-experimental designs. This variety of research designs could provide cross-study methodological triangulation, which could help ensure the validity of the meta-level conclusions. Peer review also is a familiar concept for most teachers and some students, and peer review can probably be integrated within most existing writing class curricula. In addition, most college-level teachers have the pedagogical knowledge necessary to group students appropriately and to help students learn to provide effective error correction to their peers. These factors increase the likelihood that a peer review intervention could be implemented efficiently with minimal disruption to existing class practices. As a result, peer review was selected as the intervention for treating the writing anxiety and writing class achievement challenges of ELLs in the research context.
Chapter 3 Summary

This chapter has provided an overview of the most common and well-researched interventions that have been used to help reduce the negative effects of academic anxiety for student populations. First, this chapter presented a conceptual framework for the role that anxiety plays in inhibiting optimal second language writing acquisition. Next, the author reviewed studies that used collaborative writing as an intervention for writing anxiety, and these studies generally indicated a positive treatment effect for reducing writing anxiety (Cho & Lim, 2017; Jiang, 2015) and for improving students’ quality of writing (Dobao, 2012; Jiang, 2015; Storch, 2005; Wigglesworth & Storch, 2009). Subsequently, the author reviewed mindfulness intervention studies that used various mindfulness practices to help decrease anxiety symptoms in postsecondary students. All of these studies indicated that mindfulness was associated with decreases in anxiety for postsecondary students (Britt et al., 2018; Hjeltnes et al., 2015; Kang et al., 2009; Tang et al., 2007). In addition, some of these mindfulness studies presented evidence that mindfulness can also help improve students’ attention regulation, which is a key mechanism for second language acquisition as illustrated in the conceptual framework in Figure 2 (Hjeltnes et al., 2015; Tang et al., 2007). Lastly, this chapter provided a review of studies that employed peer review interventions. These peer review intervention studies found that peer review can be an effective method for helping students decrease their writing anxiety, improve their writing quality, and develop an awareness of their audience (Choi, 2008; Iksan & Halim, 2018; Jahin, 2012; Kurt & Atay, 2007; Yastıbaş & Yastıbaş, 2015).
Chapter 4

Intervention for Writing Anxiety

The needs assessment provided compelling evidence that ELL students at Middlebury Institute struggle with writing anxiety. Writing anxiety is a meaningful barrier to acquiring advanced academic English writing skills (Phakiti et al., 2013). It is important to identify effective treatments for writing anxiety that can promote academic writing development because academic writing is essential for success in U.S. higher education (Crossman, 2018). Despite its importance, many adult ELL students struggle with this skill (Hodara, 2015; Mamiseishvili, 2011; Roessingh & Douglas, 2012). Chapter three indicated that peer review is an effective treatment that researchers could integrate into the academic writing courses at the Institute.

Numerous research studies indicate that peer review can be an effective classroom practice for decreasing writing anxiety and increasing writing performance (Choi, 2013; Jahin, 2012; Kurt & Atay, 2007). In particular, studies show that peer review is effective for helping learners develop a sense of audience, which improves students’ abilities to self-edit (Choi, 2013).

Learner autonomy is an important objective of the ELL courses at the Institute. The needs assessment results showed that students at the Institute especially struggle with writing avoidance behaviors, which is a threat to writing performance. Prior studies show that peer review is an effective tool for encouraging students to write in greater breadth and depth and actively engage in language-focused discussions with peers (Kurt & Atay, 2007). As a result, peer review activities could help students to write more frequently in English and engage in critical discussions that could support their academic writing performance. As Bandura (1986) pointed out, learner anxiety can lead to avoidance of opportunities to seek challenges and develop one’s skills. In contrast, Bandura claimed that learners who possess self-efficacy are
more likely to seek challenges and manage failures in ways that promote their cognitive development. Thus, peer review was selected as an intervention to help decrease students’ writing anxiety, increase their self-efficacy, and, thereby, increase their writing performance. These are all critical skills for success in U.S. higher education contexts.

**Research Context**

The context for this study was the English for Academic and Professional Purposes (EAPP) program at Middlebury Institute. This program provides English language development support for graduate students while they are pursuing master’s degrees at the Institute. The peer review intervention occurred in the online Editing Writing course at the Institute. This was a three-credit fully online course that met synchronously once a week during the fall 2020 semester from August 24 to December 11, 2020. The course objectives focused on helping students become autonomous writers and self-editors of their academic writing. The researcher taught the course and implemented a peer review writing intervention in this course. Based on prior research (Jahin, 2012; Kurt & Atay, 2007), the essential components of the peer review intervention consisted of the following: (a) practice sessions for students to practice peer review activities with sample texts, (b) use of customized rubrics to guide students’ peer review feedback, (c) composition of four academic texts, and engaging in four peer review feedback discussions, (d) completion of a second draft of each text, and (e) receiving feedback on the final draft from a teacher. The focus of this intervention was primarily on the peer review feedback sessions between students. This is because research indicated that the causal mechanism (Leviton & Lipsey, 2007) for reducing language anxiety primarily occurs when students are collaborating to actively review one another’s writing (Phakiti et al., 2013; Woodrow, 2006). Thus, the research predominately focused on the effectiveness of the peer review interactions.
Purpose and Research Questions

The intervention study aimed to examine the potential effect that peer review had on participants’ experiences of self-efficacy for academic writing, writing anxiety, and writing performance. The research also sought to understand participants’ experiences engaging in the peer review activities and working with the peer review texts and rubrics. The goal of this aspect of the intervention was to identify the components and activities that were effective or ineffective for achieving the intervention goals. Analysis and interpretation of this data can help improve future iterations of the peer review intervention (Bryk et al., 2015). As such, the following research questions, listed in Table 3 below, guided the intervention study:

Table 3

Evaluation study research questions

<table>
<thead>
<tr>
<th>RQ 1</th>
<th>Did the intervention include two practice peer review sessions and four actual peer review sessions that incorporated all of the planned activities?</th>
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<tr>
<td>RQ 2</td>
<td>Did participants fully complete all of the delivered peer review activities?</td>
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<tr>
<td>RQ 3</td>
<td>What was the level of quality of the teacher-led peer review activities?</td>
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<tr>
<td>RQ 4</td>
<td>What was the level of student participation in the peer review feedback discussions?</td>
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<td>RQ 5</td>
<td>Which component(s) of the intervention do participants view as essential for decreasing writing anxiety?</td>
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<tr>
<td>RQ 6</td>
<td>To what extent did students’ experience of writing anxiety change after participating in the peer review writing intervention, and what was the nature of the change?</td>
</tr>
<tr>
<td>RQ 7</td>
<td>To what extent did students’ experience of self-efficacy for writing change after participating in the peer review writing intervention, and what was the nature of the change?</td>
</tr>
<tr>
<td>RQ 8</td>
<td>To what extent did the intervention contribute to improvement in students’ writing performance, and to what extent did students perceive this change as related to the intervention?</td>
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</table>
Research Design

The study employed a quasi-experimental mixed methods design in order to strengthen corroborating evidence and promote novel insights (Creswell & Plano Clark, 2018; Johnson et al., 2007). More specifically, the researcher utilized a convergent parallel mixed methods design in which data was collected separately prior to an integrated analysis and interpretation (Teddlie & Tashakkori, 2003). Due to the small sample size of the study, the strength of the quantitative data conclusions was limited. As a result, the study used a qualitative dominant design that relied more heavily on qualitative data for drawing inferences (Creswell & Plano-Clark, 2018; Johnson et al., 2007). Mertens (2018) outlines four different branches of evaluation research. This study prioritized the value branch, which emphasizes “the importance of context and multiple stakeholders’ construction of reality as the pathway to creating knowledge that is credible” (Mertens, 2018, p. 16). As explained in the conceptual framework for the effects of anxiety on the acquisition of second language writing (see figure 2), effective language learning is rooted in social contexts that learners use as resources to further their language development. Thus, it is reasonable to prioritize observation and evaluation of the language classroom context. Johnson and Onwuegbuzie (2004) point out that qualitative research is especially suitable for representing the unique role that the social context plays in the lives of the participants. Mertens also argues that boundaries between the branches are amorphous and interact through a global conveyor belt that draws from various branches. Given this perspective, the study also utilized aspects of the use branch. This branch uses a pragmatic paradigm to evaluate the program’s usefulness for participants (Mertens, 2018). According to Johnson et al. (2007), mixed methods research draws on the pragmatic paradigm to maximize the strengths and mitigate the weaknesses of each individual method, resulting in increased validity of inferences. Consequently, the research
design used aspects of the value and use branches to maximize representation of participant perspectives and to ensure usable results for program decisions and improvements.

**Process Evaluation**

Process evaluation is a component of evaluation that aims to assess the extent to which researchers actually implemented the program activities and services as planned (Dusenbury et al., 2003; Rossi et al., 2019). Baranowski and Stables (2000) described the process evaluation as a tool for explaining the manner that program effects occur, understanding how to optimize program effects, and ensuring the validity of the study. An important function for the process evaluation is to provide evidence that researchers implemented the components of the program that are essential to produce the desired program outcomes (Leviton & Lipsey, 2007). The process evaluation for this study examined whether researchers implemented the intervention according to the theoretical design. This aspect of the evaluation helped identify the causal mechanisms involved in the treatment effect while measuring the social benefits to participants (Rossi et al., 2019).

**Fidelity of Implementation**

Fidelity of implementation helps facilitate realization of intended program effects. Dusenbury et al. (2003) explained that fidelity of implementation refers to the extent to which service providers deliver the program “as intended by the program developers” (p. 240). Similarly, Rossi et al. (2019) mentioned that faithful implementation of a program involves performing the planned functions as intended with the required quality, regularity, and strength. Evaluating a study’s fidelity of implementation can help prevent the occurrence of a Type III error (Dusenbury et al., 2003). This happens when researchers incorrectly claim that the results are due to the treatment when the results were actually due to poor implementation fidelity. This
study evaluated five components of fidelity of implementation. Dusenbury et al. (2003) recommend measuring the following five aspects of fidelity of implementation: adherence, dose, quality of program delivery, participant responsiveness, and program differentiation. Table 4 below provides definitions of each of these process evaluation components.

Table 4

*Process Evaluation Components*

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Definition</th>
<th>Method of Measuring</th>
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<tbody>
<tr>
<td>Adherence</td>
<td>“…the extent to which implementation of particular activities and methods is consistent with the way the program is written” (Dusenbury et al., 2003, p. 241).</td>
<td>Intervention Activity Log</td>
</tr>
<tr>
<td>Dose</td>
<td>The completeness of delivery of program components as intended by the program design.</td>
<td>Intervention Activity Log</td>
</tr>
<tr>
<td>Quality of Delivery</td>
<td>“…ratings of provider effectiveness which assess the extent to which a provider approaches a theoretical ideal in terms of delivering program content” (Dusenbury et al., 2003, p. 244).</td>
<td>Teacher Observation Protocol</td>
</tr>
<tr>
<td>Participant responsiveness</td>
<td>“ratings of the extent to which participants are engaged by and involved in the activities and content of the program” (Dusenbury et al., 2003, p. 244).</td>
<td>Student Discussion Observation Protocol and Intervention Activity Log</td>
</tr>
<tr>
<td>Differentiation</td>
<td>“…identifying unique features of different components or programs so that these components or programs can be reliably differentiated from one another “ratings of the extent to which participants are engaged by and involved in the activities and content of the program” (Dusenbury et al., 2003, p. 244).</td>
<td>Semi-structured Interview Protocol</td>
</tr>
</tbody>
</table>

First, the evaluation of fidelity of implementation included evaluations of adherence and dose. Research question one guided evaluation of adherence, and research question two guided evaluation of dose. Adherence consists of delivering the essential components of the program as
the program designers intended (Dusenbury et al., 2003). As detailed in the logic model in Appendix K, adherence entailed implementing the following essential treatment components: Instruction by one qualified ELL writing instructor, participation of the majority of students in the Editing Writing class, delivery of two practice and four actual peer review sessions, use of rubrics to guide peer review feedback, student completion of two drafts of four different essay genres, and teacher grading of each essay using a rubric. Dose involves delivering the aforementioned components completely, or in the intended quantity (Dusenbury et al., 2003). Thus, measurement of dose involved documenting and tallying the number of program components implemented and the number of students who fully completed each of the components. The primary measurement instrument for implementation is the quantitative intervention activity log, which provided a numerical summary of the total number of intervention activities that the faculty and students performed.

As part of the fidelity of implementation evaluation, the researcher also evaluated quality of delivery and participant responsiveness. The third research question evaluated quality of delivery, and the fourth research question measured participant responsiveness. According to Dusenbury et al. (2003), quality of delivery depends on service provider effectiveness and whether the provider “approaches a theoretical ideal” when delivering the program (p. 244). The theoretical ideal for this study entailed interactive, student-centered language instruction. As such, the intervention was rooted in the instructional principles of contemporary sociocultural theorists, such as Swain and Lapkin (1998), who argued that language development depends on focused linguistic interaction among peers and teachers. Given this understanding of language development, quality program delivery needed to include instruction that encouraged students to interact with their peers and use the grammatical forms targeted in the Editing Writing course.
learning outcomes. A senior EAPP faculty member used a Teacher Observation Protocol to measure the extent to which the instructor taught in a quality manner. While quality of delivery focuses on instructor performance, participant responsiveness is the aspect of fidelity of implementation that concerns whether participants actively responded to the intervention activities (Dusenbury et al., 2003). In order to evaluate participant responsiveness, the researcher documented the extent to which students engaged in language-focused discussions during peer review activities. Additionally, the researcher used a Student Discussion Observation Protocol to measure participant responsiveness during the peer review discussions that occurred during the intervention.

The last component of fidelity of implementation is program differentiation. This involves identifying different program components in order to determine which components are more or less essential for producing the desired effects (Dusenbury et al., 2003). Research question five guided evaluation of program differentiation. Since the resources for most educational programs are limited, it is necessary to focus the intervention activities on the components that are likely to produce the greatest effect on participant outcomes (Rossi et al., 2019). Participants’ perceptions of the efficacy of program components and activities are helpful for determining which aspects are essential (Rossi et al., 2019). As a result, the researcher used a semi-structured interview protocol to ask participants about the different components of the intervention program. Specifically, the researcher asked about the components that students perceived to be more or less helpful for improving their academic writing and their self-efficacy for writing and writing anxiety.
**Outcome Evaluation**

The program outcome evaluation seeks to evaluate the observable effects that the intervention treatment produces for the target population (Rossi et al., 2019). The evaluation study also aims to test the empirical counterfactual, which refers to the difference between outcomes for participants with treatment and the outcomes for participants in the absence of treatment (Shadish et al., 2002). According to Shadish et al. (2002), randomized controlled trials (RCTs) are the most effective method for approximating the counterfactual and ensuring high validity. However, Shadish et al. (2002) mentioned that researchers who cannot use an RCT design can increase validity through other means such as employing multiple measurements and different times of the outcome variables. As a result, the researcher used a pre-posttest design of the key outcome variables in order to increase the internal validity and quality of inferences (Creswell & Plano Clark, 2018). The researcher examined the following dependent outcome variables: writing anxiety (short-term), writing self-efficacy (short-term), and writing performance (medium-term).

**Outcome Evaluation Design**

The intervention study used a mixed methods research methodology with a quasi-experimental design (Shadish et al., 2002). More specifically, the study employed a fixed mixed methods convergent design (Creswell & Plano Clark, 2018). The convergent design involved parallel collection of the quantitative and qualitative data followed by independent analysis of the quantitative and qualitative results before an integrated analysis of both data sets (Teddlie & Taskakkori, 2003). The researcher triangulated data collection through use of qualitative and quantitative measurements of the outcome variables (Johnson et al., 2007). The convergent parallel design is a pragmatic research design that draws on the strengths of each method while
minimizing the weaknesses of each (Creswell & Plano Clark, 2018). The purpose of using this design was to compare results from both strands to determine if the results converged or diverged (Creswell & Plano Clark, 2018). In addition, the design helped triangulate data sources, which helped corroborate conclusions and increase internal validity (Creswell & Plano Clark, 2018; Johnson & Onwuegbuzie, 2004).

The mixed methods research design consisted of multiple quantitative and qualitative data collection methods. The quantitative portion of the evaluation study employed a pre-posttest design to measure writing anxiety, writing self-efficacy, and writing performance. Writing anxiety was measured using Cheng’s (2004) Second Language Writing Anxiety Inventory, and writing self-efficacy was measured with Bruning et al.’s (2013) Self-efficacy for Writing Scale (SEWS). The study also included an assessment of students’ writing performance, which was measured using a pre-intervention writing task and a post intervention writing task. These ratings were used to produce mean composite scores for individual students and the class which provided evidence for whether writing performance improved. The qualitative portion of the study used qualitative interviews and examination of intervention artifacts. The researcher recruited a convenience sample of three students to participate in individual interviews at pre-intervention and post-intervention. These interviews used a semi-structured interview protocol that helped focus questions on the variables of interest (Lochmiller & Lester, 2017). In sum, the outcome evaluation involved evaluation of one short-term outcome and one medium-term outcome as depicted in the logic model in Appendix K.

**Threats to Validity**

This section will consider several potential threats to validity and the steps that have been taken to mitigate these threats. The first potential threat was the threat to statistical conclusion
validity (Shadish et al., 2002). Statistical conclusion validity refers to the researcher’s ability to draw valid inferences about covariation between the variables of interest. Low statistical power was a potential threat for the study because it could have promoted an erroneous rejection of the null hypothesis. A review of the literature indicated that peer review treatments for writing anxiety could produce large effect sizes of 0.70 or larger (Kurt & Atay, 2007). The results of a power analysis at 0.80 power indicate that a sample size of 19 participants was necessary to detect the anticipated effect. Since the study only included eight participants, the study might have been underpowered to find an effect. One way to increase the statistical conclusion validity is by ensuring “reliable treatment, delivery, receipt, and adherence” (Shadish et al., 2002, p. 47). The researcher used process monitoring and outcome monitoring to ensure each of these treatment components occurred as planned. Another important potential threat to internal validity is participant maturation, which refers to natural development not attributable to the treatment (Shadish et al., 2002). During the 15-week study, participants’ language development naturally progressed as a result of ongoing practice and engagement with the target language. According to Shadish et al. (2002), one way to mitigate maturation threats is to ensure participant homogeneity at the beginning of the study. In order to ensure homogeneity, the researcher ensured that all participants possessed a minimum level of English proficiency by reviewing their scores on standardized English tests and their English placement tests. Lastly, secular events, such as independent practice and interactions outside of class, might have influenced the study outcomes (Rossi et al., 2019). In order to limit these threats to validity the researcher designed interview questions to elicit participant responses that focused on the intervention alone, excluding other influences. In addition, the interviewer asked specific follow up questions about whether the participants attributed their progress to the peer review intervention.
Method

This section provides an overview of the methods for the intervention study. The section introduces the participants, measurements, and the data collection tools. Due to the mixed method design, the section discusses both the quantitative and qualitative evaluation methods.

Participants

Participants for the study included eight adult ELL students who were studying in graduate degree programs at the Middlebury Institute of International Studies. The overall student population at Middlebury Institute is approximately 30% international students, and this population comes from a variety of home countries. However, the largest populations of international students are from Asian countries, especially China, Taiwan, South Korea, and Japan. The researcher used a non-random convenience sample to select participants who were enrolled in the 300-level of the Editing Writing course during the fall 2020 semester at the Middlebury Institute of International Studies (Lochmiller & Lester, 2017). Students were not compensated for participating in the study, and all students were able to opt out of the study by declining to sign the informed consent form that a faculty member administered prior to the start of the study. There was a total of 12 students who were enrolled in the course, and two of these students were auditing the course. The study sample was formed from the eight students in the course who volunteered at the beginning of the course to participate in the research study. Of these eight study participants, five were Chinese, one was Chinese American, and one was Egyptian. All international ELL students took a placement test for their English writing level in August 2020, and the results were used to place students in either the 300-level or 400-level Editing Writing course. This intervention study was conducted in the 300-level Editing Writing
course. All participants were 18 years or older and studying in the 300-level Editing Writing course, which made them eligible to participate in the research study.

**Measures**

This section provides an overview of the process and outcome measurement instruments for the study. This mixed methods study will include both quantitative and qualitative measurement instruments. Table 5 below provides an overview of each variable and the related instrument.

**Table 5**

*List of instruments for the intervention study*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Instrument</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Adherence</td>
<td>Intervention activity log</td>
<td>Quantitative, Independent</td>
</tr>
<tr>
<td>Program Dose</td>
<td>Intervention activity log</td>
<td>Quantitative, Independent</td>
</tr>
<tr>
<td>Quality of Delivery</td>
<td>Teacher Observation Protocol</td>
<td>Quantitative, Independent</td>
</tr>
<tr>
<td>Participant Responsiveness</td>
<td>Student Discussion Observation protocol, Researcher Diary</td>
<td>Quantitative &amp; Qualitative, Independent</td>
</tr>
<tr>
<td>Program Differentiation</td>
<td>Semi-structured Interview Protocol, Researcher Diary</td>
<td>Quantitative &amp; Qualitative, Independent</td>
</tr>
<tr>
<td>Writing Anxiety</td>
<td>22-item Likert-scale Second Language Writing Anxiety Inventory (Cheng, 2004) (See Appendix B)</td>
<td>Quantitative, Dependent</td>
</tr>
<tr>
<td></td>
<td>Semi-structured interview protocol (See Appendix I)</td>
<td>Qualitative, Dependent</td>
</tr>
<tr>
<td>Writing Self-efficacy</td>
<td>Self-efficacy for Writing Scale (SEWS) (Bruning, et al. 2013) (See Appendix F)</td>
<td>Quantitative, Mediating</td>
</tr>
<tr>
<td>Writing Performance</td>
<td>Test of Writing Performance</td>
<td>Quantitative, Dependent</td>
</tr>
</tbody>
</table>
The researcher used the Intervention Activity Log to measure the process evaluation variables of program adherence and program dose. These variables correspond to evaluation research questions one and two. The process evaluation used an activity log to document teacher delivery and student reception of the key intervention components (see Appendix J). An activity log provides important documentation of the steps taken in a study (Rossi et al., 2019). The researcher used the Intervention Activity Log to note which intervention components he implemented and which components each participating student completed. The log includes a binary scoring scheme in which a score of one represents successful completion of a task, and a score of zero represents unsuccessful completion of a task. This documentation enables external reviewers to judge the plausibility of intervention steps leading to the reported effects (Rossi et al., 2019). Each column in the Intervention Activity Log lists a key component of the intervention that the teacher needed to implement, and the student needed to actively engage with. For instance, the first column is a column for documenting whether the teacher implemented the first practice peer review session, and the second column is for documenting whether each student participated in the first practice peer review session. The researcher entered a binary score of one for each completed activity and a score of zero for each non-completed activity. There was a total of five teacher activities to complete and a total of 14 student activities to complete. Thus, possible total scores for students are zero to 14, and possible total scores for the teacher is zero to five. The Intervention Activity Log can serve as part of the audit trail for the study (Lochmiller & Lester, 2017). Guba (1981) mentioned that an audit trail can help establish the dependability and validity of qualitative research.
Teacher Observation Protocol

The study included a Teacher Observation Protocol instrument that was used to measure the quality of delivery variable. It is important for students to receive quality instruction on aspects of the course related to the peer review intervention. In particular, the observation protocol was used to collect data on the quality of instruction during the two practice peer review sessions. This quality of delivery variable and observation instrument supported investigation of the third research question. The researcher adapted this protocol from the Reformed Teaching Observation Protocol (RTOP) (Piburn et al., 2000), which is a valid and reliable protocol that educators have used in a multitude of K-20 contexts. Piburn et al. (2000) reported very high inter-rater reliability of .95 for the instrument, and the authors also reported extensive evidence of validity, including predictive validity involving a correlation coefficient of .88 for the correlation between instrument ratings and students’ final course grades. Furthermore, the authors noted that the purpose of the instrument is to measure constructivist approaches to teaching, including active student engagement with course content. Since the researcher used a constructivist paradigm, the Reformed Teaching Observation Protocol was a coherent instrument for use in this study.

Researcher bias is an important consideration in qualitative research (Lochmiller & Lester, 2017). Since the researcher also was the teacher for the intervention course, it was necessary to limit potential researcher bias related to using the study instruments. According to Creswell and Miller (2000), one way to minimize researcher bias is to recruit research assistants to help analyze study data. As a result, the researcher asked another faculty member in the EAPP program to serve as a research assistant to assist with analyzing the intervention’s process evaluation data. This research assistant was the EAPP Program Head, and she had extensive
experience teaching academic writing to adult ELL students. The research assistant used the writing test rubric to review and score the pre- and post-intervention writing tests. In addition, she reviewed videos of the researcher teaching the practice peer review sessions and use the Teacher Observation Protocol to rate the quality of instruction.

**Student Discussion Observation Protocol**

The Student Discussion Observation Protocol is another observation instrument that the researcher used to document and measure learning interactions. This instrument was used to measure the variable of participant responsiveness. The instrument relates to research question four. The Student Discussion Observation Protocol consists of three categories of student engagement that the researcher will rate on a scale of one to four with one indicating the action never occurred and four indicating that the statement is very descriptive of the observed behaviors. This instrument also was adapted from Piburn et al.’s (2000) Reformed Teaching Observation Protocol and from Swain and Lapkin (1998). It includes categories related to Piburn’s constructs of *communication of ideas, proportion of student talk*, and it includes one category for Swain and Lapkin’s *language related episodes*. The researcher watched video recordings of students’ peer group discussions and used the observation protocol to rate each students’ level of participation during each of the three different peer review sessions.

**Semi-structured Interview Protocol**

The semi-structured interview protocol is a qualitative instrument that was used to provide structure for individual participant interviews. This interview protocol was used to gather data related to the following variables: program differentiation, writing anxiety, and writing self-efficacy. The researcher used this instrument to gather qualitative data for answering research questions five, six, and seven. The interview protocol consists of four questions that
correspond with these three research questions. The researcher limited the protocol to only four questions to provide sufficient time and flexibility for follow-up questions. The purpose of this interview protocol was to gather evidence regarding whether participants perceived changes in the writing anxiety and self-efficacy for writing as a result of the peer review intervention. Another aim was to collect information about the different aspects of the intervention that participants viewed as being most essential for affecting the outcome variables. The following is a sample question about the essential program components: “I would like you to think about the peer review activities that you completed during class this session. Please describe which of the peer review activities were most and least helpful for improving your academic writing.” The following is an example question for measuring writing anxiety from the protocol: “Again, please think about your interactions with your peer during class time. Could you please describe any ways that these interactions influenced anxiety that you had about writing in English?” In addition, the following example question was used to measure participants perception of their post-treatment self-efficacy for writing: “I would like you to think about the peer review activities that you completed during class this session. Could you please describe any ways that these interactions influenced your feelings of confidence about being able to write well in English?” The full interview protocol is available for review in Appendix I. The researcher used the Semi-structured Interview Protocol to conduct individual interviews with participants immediately before and immediately after the intervention. In addition, the researcher used member checking to confirm the accuracy of the researcher’s understandings (Miles et al., 2020). This helped increase the trustworthiness of the qualitative data (Guba, 1981).
Second Language Writing Anxiety Inventory

The researcher used Cheng’s (2004) Second Language Writing Anxiety Inventory (SLWAI) to measure the outcome variable of writing anxiety. This instrument was used to gather data that helped answer research question six. The SLWAI was a 22-item Likert-scale questionnaire that Cheng (2004) developed to measure English language learner’s experiences with writing anxiety. The purpose of this instrument was to provide a valid and reliable self-report method for assessing the degree of writing anxiety for a sample of second language writers. The instrument consisted of 22 Likert-scale items with a five-point scale that used the following format: 1 = strongly disagree; 2 = disagree; 3 = no strong feelings either way; 4 = agree; 5 = strongly agree (Cheng, 2004). The instrument also included three subscales designed to measure somatic anxiety, cognitive anxiety, and avoidance behavior anxiety. The somatic anxiety subscale (seven items) measured physiological symptoms of anxiety, such as increased heartrate and sweaty palms. Next, the cognitive anxiety subscale (seven items) measured apprehension about being negatively evaluated for one’s writing performance. Last, the avoidance behavior anxiety subscale (six items) was designed to measure the prevalence of avoiding opportunities to practice writing in English. The following is an example item from the questionnaire: “I tremble or perspire when I write English compositions under time pressure” (Cheng, 2004, p. 324).

There was evidence of high validity and reliability for the SLWAI survey instrument. Cheng (2004) reported high internal reliability for the SLWAI survey with a Cronbach’s alpha coefficient of .91 and a test-retest alpha of .85. The subscales also had high reliability, ranging from .81 to .88. In addition, Cheng (2004) validated the instrument by using previously validated
instruments as models, pilot testing, establishing convergent and divergent validity through factor analysis, and establishing criterion validity with a writing test.

**Self-efficacy for Writing Scale**

The Self-efficacy for writing scale was selected to measure the outcome variable of writing self-efficacy. This instrument was used to collect data related to research question seven. The Self-efficacy for Writing Scale (SEWS) was a 16-item questionnaire that measured students’ writing self-efficacy (Bruning et al., 2013) The purpose of the instrument was to provide a multifactor self-assessment of students’ self-efficacy for writing. The instrument consisted of 16 items that respondents rated on a five-point Likert scale. The Likert scale used the following format: 1 = not confident, 2 = a little confident, 3 = somewhat confident, 4 = confident, 5 = very confident.

There is evidence of acceptable validity and reliability for the SEWS survey instrument. Bruning et al. (2013) reported high internal reliability as evidenced with Cronbach’s alpha levels above .80 for each of the subscales and the overall instrument. The survey developers also reported validation measures that included pilot testing the survey, confirmatory factor analysis, and establishing convergent and divergent validity through comparison with measurements of related constructs.

**Tests of Writing Performance**

The researcher used two academic writing tests to measure the outcome variable of writing performance. Intervention study participants completed a pre-intervention and a post-intervention test of their academic writing performance. The writing test instruments correspond to research question eight. Experienced writing faculty in the EAPP program developed an authentic academic writing test to measure students’ academic writing performance. Faculty
have administered this test to hundreds of students, and the faculty have refined the test questions in order to improve the reliability and validity of the assessment instrument. Both the pre-test and post-test contained of two parts. Part one consisted of five statements about an academic debate topic. For instance, pre-test in Appendix L used the topic of the advantages and disadvantages of nuclear energy. Students had six minutes to read each statement and write a paraphrase of each statement. In part two of the test, students had 60 minutes to write a pro/con essay that supported one of two statements about the topic. Students had to integrate the paraphrases from part one of the test into their essay. The following is an example essay prompt from the pre-test on the topic of nuclear energy: “(1) Nuclear energy should be considered as a viable source of energy to meet the world’s escalating energy demands. (2) Nuclear energy should not be considered as a viable source of energy to meet the world’s escalating energy demands.” The text of the full pre-test and post-test of writing performance is available in Appendix L. Two research assistants, who were experienced ELL writing instructors, used an analytic rubric to grade each of the pre and post intervention tests of students’ writing performance. The research assistants assigned a score of one, two, or three for each of the nine different descriptors on the rubric with higher scores on each descriptor representing higher levels of writing performance for that particular aspect of academic writing. Each of the rubric descriptors were based on the learning outcomes for the EAPP program.

**Researcher Diary and Course Artifacts**

Additional qualitative data instruments included a researcher diary and student writing artifacts from the intervention course. The researcher maintained a diary throughout the intervention to document procedures for the intervention implementation. The diary included observations about how participants completed activities, and it included reflections on the
success and limitations of intervention components. Research diaries/journals can provide valuable documentation of the actual steps taken in the intervention, which can support the process evaluation (Rossi et al., 2019). In addition, the researcher collected course artifacts from participants, which included drafts of texts and rubrics from the intervention. Study artifacts such as these can provide insights into the actions that participants engaged in during the intervention, and these artifacts can help triangulate the data collection and increase study validity (Lochmiller & Lester, 2017).

**Procedure**

This section provides an overview of the procedure that was followed to carry out the intervention study. The intervention used peer writing review as a treatment to improve the targeted outcomes for the study. Research has shown that peer review for adult ELL learners is an effective pedagogical strategy for decreasing writing anxiety (Kurt & Atay, 2007), increasing self-efficacy for writing (Zabihi, 2018), and improving writing performance (Zabihi, 2018). Due to the robust and well-documented benefits of peer review, the researcher used peer review as an intervention for treating the problem of low achievement in academic writing courses at the Middlebury Institute for International Studies (MIIS). The peer review intervention occurred over the course of 12 weeks during the fall 2020 semester. The context for the intervention was the 300-level Editing Writing course at Middlebury Institute of International Studies, which is a four-unit course that meets twice weekly on Tuesdays and Thursdays for a total of 32 class sessions. A review of peer review intervention studies indicates that, in order to be effective, peer review interventions should include the following key components: rubrics targeting course objectives, peer review practice sessions, peer feedback on writing, two or more drafts of texts, and summative teacher feedback on texts (Kurt & Atay, 2007; Jahin, 2012). The following
sections describe each of these components in more detail. Table 6 below provides an overview of the schedule for implementation of the study’s key components.

Table 6

*Intervention Implementation Timeline*

<table>
<thead>
<tr>
<th>Component</th>
<th>Timeline</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice session 1</td>
<td>October 8</td>
<td>Students practice reviewing a sample text in pairs.</td>
</tr>
<tr>
<td>Practice session 2</td>
<td>October 13</td>
<td>Students role play giving each other feedback using a sample text.</td>
</tr>
<tr>
<td>Peer review 1</td>
<td>October 16-19</td>
<td>Students discuss first text</td>
</tr>
<tr>
<td>Peer review 2</td>
<td>November 1-9</td>
<td>Students discuss second text</td>
</tr>
<tr>
<td>Peer review 3</td>
<td>November 29-December 6</td>
<td>Students discuss third text</td>
</tr>
</tbody>
</table>

**Rubrics**

Rubrics are important heuristic tools for peer review interventions. Prior studies have shown that rubrics assist with directing students’ attention to textual aspects that are the target of course learning outcomes (Choi, 2014; Kurt & Atay, 2007). Prior to each peer review session, the researcher developed a rubric based on the course objectives that students used to provide each other feedback. This was a wholistic rubric that included targeted learning outcomes for the course along the Y-axis and a wholistic rating scale along the X-axis. The wholistic rating scale included the following rating options: acceptable, mostly correct, needs improvement.

Additionally, students will answer a series of guiding questions about the peer text, which is intended to direct them to confirm whether their peer’s text contains the required elements. For instance, consider the following guiding question: “Does the text respond to all of the assignment requirements?” During the first two practice peer review sessions, the instructor demonstrated how to use the rubrics with a sample text, and students practiced using the rubric with a sample
text. After submitting the first draft of each course text, the instructor assigned pairs to review each other’s texts, and these pairs used the rubric to provide written feedback on each text.

**Practice Sessions**

Providing practice with peer review is an important element of successful peer review interventions. According to Kurt and Atay (2007), “training is a prerequisite for successful use of peer feedback” (p. 16). As a result, the intervention began with two class sessions of peer review practice. The lesson plan for the practice sessions follows the format that Kurt and Atay (2007) recommended. Each practice session lasted for approximately one hour of the course. The researcher served as the teacher for course, and he led each of the practice peer review sessions. The external evaluator used video recordings of the practice sessions to and evaluate the quality of delivery of these practice sessions. During the first practice session, the teacher gave students a sample academic text and a rubric for reviewing the text. The teacher discussed each of the elements of the rubric in detail with the students. Next, the students worked in pairs to use the rubric to create written feedback for the text. Last, the teacher led a whole-class discussion about the students’ feedback for each element on the rubric. During the second practice session, the teacher followed the same procedure as before, but this time the teacher assigned students to A and B pairs in order to role play giving each other feedback on the sample text. One student played the role of the student providing feedback while the second student role played the student who received feedback. Students worked in pairs in a Zoom breakout room to practice using the rubric to provide and receive feedback on the sample text. After students finished this role play activity, they rejoined the main Zoom room and discussed their feedback with the teacher.
Peer Feedback

The process of providing meaningful and useful feedback on peer writing is the heart of the peer review intervention. Numerous studies show that reviewing peer feedback helps students identify and correct writing errors in a non-threatening manner (Choi, 2014; Iksan & Halim, 2018). In addition, research also suggests that providing feedback also improves student writing by making students more aware of how audiences perceive their own texts (Cho & Cho, 2011). In fact, Cho and Cho (2011) found that the quantity of feedback that students provided correlated highest with the overall quality of students’ texts. As a result, the intervention prioritized both giving and receiving feedback on texts. One commonly reported limitation to peer review is that some students may be incapable of providing effective feedback to their peers (Choi, 2014). In order to mitigate this possibility, the teacher gave students opportunities to work with different peers during the intervention. After the students submitted the first draft of their text, the teacher assigned students a peer to work with and provided students with instructions and a rubric for reviewing the texts. Students then worked asynchronously to read and provide feedback on their peer’s texts. Prior to their peer review discussion, students sent their peer a copy of the reviewed text with comments and suggested revisions that were indicated using the Microsoft Word track changes feature. Students also sent their peer a copy of the rubric that they used to evaluate the text. Next, the peer partners scheduled a time to meet outside of class time to discuss each other’s feedback. The quantity of language-focused discussion is important because Swain and Lapkin (1998) observed that discussion quantity during peer review had a significant positive correlation with the quality of students’ texts. Participants repeated this drafting and feedback cycle for each of the four course texts.
Revision

Revision of initial text drafts is another essential component of effective peer review interventions. In the reviewed studies, participants completed at least two drafts of each assigned text (Choi, 2014; Iksan & Halim, 2018; Jahin, 2012; Kurt & Atay, 2007). As a result, participants in this study completed two drafts of the three assigned texts. After receiving written and oral peer feedback, participants revised their text and completed a second draft of the text. This process was important for helping participants convert their declarative knowledge of writing conventions to the procedural knowledge of actual text composition (Byrnes, 2008). Students made their revisions and submitted a second draft Word document to their teacher. The students followed the same revision process for all three of the assigned course texts.

Teacher Feedback

The final component of the peer review intervention involved the course instructor providing summative feedback on each of the intervention texts. Feedback on texts from the teacher was an important supplement to peer feedback. Choi (2013) and Kurt and Atay (2007) concluded that peer feedback in conjunction with teacher feedback is more effective than either form of feedback alone. Thus, following completion of their second drafts, the participants submitted their second drafts to their teacher for a final round of feedback. The teacher used a quantitative analytic rubric to assess whether students mastered each of the learning objectives for the course. The rubric contained criteria, or descriptors, that corresponded with the learning outcomes for the course. The teacher rated students on a scale of zero to one for each criterion, which resulted in a summative score between zero and nine for each essay. The teacher used this summative rubric to assign a numerical value to each of the three texts that students completed.
for the intervention. This will made it possible to track students’ writing performance development, including their progress towards meeting the course objectives.

**Data Collection**

The researcher collected both quantitative and qualitative data during the course of the intervention study. Table 7 below provides an overview of the data to be collected and the timeline for collection.

**Table 7**

*Timeline for Data Collection*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Quantitative</th>
<th>Qualitative</th>
<th>Data Collection Type</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLWAI</td>
<td>x</td>
<td></td>
<td>Online survey</td>
<td>9/24/20-10/7/20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12/6/20-12/18/20</td>
</tr>
<tr>
<td>SEWS</td>
<td>x</td>
<td></td>
<td>Online survey</td>
<td>9/23/20-10/7/20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12/6/20-12/18/20</td>
</tr>
<tr>
<td>Test of Writing Performance</td>
<td>x</td>
<td></td>
<td>Online text entry</td>
<td>by 9/23/20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>by 12/11/20</td>
</tr>
<tr>
<td>Intervention Activity Log</td>
<td>x</td>
<td></td>
<td>Excel spreadsheet</td>
<td>After each intervention</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>activity</td>
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<tr>
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<td>x</td>
<td></td>
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<td>10/08/20, 10/13/20</td>
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<tr>
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<td>Protocol</td>
<td></td>
<td></td>
<td></td>
<td>11/6/20-11/8/20,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12/4/20-12/5/20</td>
</tr>
<tr>
<td>Semi-structured Interview Protocol</td>
<td>x</td>
<td></td>
<td>Pen and paper document; audio recording</td>
<td>12/6/20-12/11/20</td>
</tr>
</tbody>
</table>

**Surveys**

The researcher used two surveys to collect data on the primary outcome variables of writing anxiety and self-efficacy for writing. The collection instruments were the Second Language Writing Anxiety Inventory (SLWAI) (Cheng, 2004) and the Self-efficacy for Writing Scale
(SEWS) (Bruning et al., 2013). The researcher loaded each survey into the Qualtrics online survey software, and the research assistant emailed the surveys to participants at the appointed time. Participants completed both surveys two different times: once prior to the start of the intervention and once immediately following the end of the intervention. The surveys remained open for a total of one week each, and the research assistant sent a reminder email about completing the survey to students at mid-point in the week.

**Intervention Activity Log**

The Intervention activity log is a data collection instrument created to document implementation of the intervention’s key components. The teacher entered data into the log after grading the second draft of each of the three course texts. The teacher used an online Excel spreadsheet to store and access the log online. There are four different dates at which the teacher is expected to open the log and note the activities that he and the students successfully completed.

**Observation Protocol**

The researcher used two different observation protocols to measure the quality of instruction and the level of participant responsiveness. There is a Teacher Observation Protocol and a Student Discussion Observation Protocol. These protocols were multi-point matrixes that used a four-point Likert-scale to measure teacher and participant behaviors. The researcher provided a copy of the observation scoring rubric and the Excel scoring document to the observer (the research assistant) prior to the recorded course sessions that were observed. In addition, the researcher met with the observer prior to the observations in order to train the observer on the scoring procedures. After each practice session, the observer watched a video
recording of the session and used the observation instruments to rate the quality of instruction and participant responsiveness.

**Course Artifacts**

The research study collected several student course artifacts during the course of the intervention. The researcher collected the following artifacts during the intervention: two drafts of each course text, copies of peer feedback on each text, copies of each peer review rubric that students complete, copies of teacher feedback for each text, copies of teacher-completed rubrics for each text, and copies of students’ reflection paragraphs completed after each peer review cycle. Miller and Murillo (2011) mentioned that artifacts could be an effective memory aid for participants, which can help produce more valid responses participant experiences. Using artifacts can also limit participants from responding in socially desirable ways that do not accurately reflect their actual lived experience (Lochmiller & Lester, 2017). The researcher used the course artifacts as a memory aid about the intervention activities when students were completing their semi-structured interviews after the end of the intervention. In addition, the researcher provides excerpts from course artifacts in the subsequent chapter in order to illustrate themes that students discussed in their interviews.

**Researcher Diary**

The researcher maintained a diary throughout the intervention. This diary was used to record observations about the process of implementing the intervention. A research diary is an effective means of documenting the actual steps that were taken while implementing a program (Rossi et al., 2019). A research diary or journal also can document observations soon after important field experiences, which can provide supporting evidence for later conclusions.
(Creswell & Plano Clark, 2018). As a result, the researcher made entries in the research diary during the intervention.

**Individual Interviews**

The primary source for qualitative data collection was individual participant interviews. Learners experience writing anxiety individually, and writing anxiety is a potentially stigmatizing experience; therefore, individual interviews were most appropriate for gathering data about this phenomenon. The researcher conducted pre- and post-intervention interviews with a sub-sample of three volunteer participants. In addition, interviewees were recruited through an email recruitment message that was sent to participants prior to the scheduled interviews. The interviews gathered data about students’ perceptions of the intervention activities, particularly students’ experiences with writing anxiety, writing self-efficacy, and the essential program components. The pre-intervention interviews were conducted the week prior to the start of the intervention, and the post-intervention interviews occurred the week after the end of the intervention. The researcher used the semi-structured interview protocol to help focus the questions and ensure collection of data relevant to the research questions (Lochmiller & Lester, 2017). During the interview, the researcher shared relevant course artifacts with each student to help him/her recall experiences related to each question (Miller & Murillo, 2011). The pre-intervention semi-structured interview protocol was used to gather data on participants’ baseline experiences with the focal variables, and the post-intervention semi-structured interview protocol was used to gather data on how participants’ experiences with the focal variables changed as a result of the intervention. The researcher conducted each of the individual interviews via Zoom. In addition, each interview was recorded and transcribed to facilitate data analysis.
Data Analysis

The data analysis involved standard quantitative and qualitative data analysis methods. The following sections provide a brief explanation of the data analysis methods for each data source.

Surveys

The researcher employed both descriptive and inferential statistical analyses for the survey data. After collecting the data, the researcher downloaded the raw data and uploaded it to the Statistical Package for the Social Sciences (SPSS) software for analysis. The first round of analysis involved running basic descriptive statistics, including the mean, median, mode, and standard deviations of the data (Lochmiller & Lester, 2017). The next step involved conducting inferential statistics to determine whether there is a significant difference in pre-test and post-test student responses to the surveys. Analyses was conducted for the overall survey composite scores and for the SLWA survey subscale. The researcher ran both parametric and non-parametric inferential statistical tests in SPSS, including a paired-samples t-test and the Wilcoxon Signed Rank test (Wagner, 2017). According to Wagner (2017), these were the appropriate tests for analyzing data from a pre-posttest research design.

Intervention Activity Log

The researcher used basic descriptive statistics to analyze the results of the Intervention Activity Log. The Intervention Activity Log produced a composite score for the teacher and each student. The researcher downloaded the activity log data and used SPSS to calculate basic descriptive statistics, including the sum, mean, mode, and standard deviation for the teacher and student composite scores.
Observation Protocol

The two observation protocols also were quantitative instruments that the researcher analyzed using basic descriptive statistics. The researcher used the same method of analysis for the Teacher Observation Protocol and the Student Discussion Observation Protocol. In addition, the researcher created an overall composite score for each instrument by running the overall sum for the observations. The researcher downloaded the observation data results and used basic descriptive statistics to calculate the mean, median, mode and standard deviation for the composite scores for each instrument.

Tests of Writing Performance

The tests of writing performance were quantitative research instruments, which were analyzed using descriptive and inferential statistics. The two research assistants used a rubric to rate each of the pre- and post-intervention tests of writing performance. The results from each research assistant were averaged for the purpose of comparing the pre- and post-intervention mean test scores. The results were uploaded to SPSS in order to run descriptive and inferential statistics. Due to the small sample size (n=8) and non-normal distribution of the data, the researcher ran a non-parametric comparison of means test. This test was the Wilcoxon Signed Rank test.

Course Artifacts and Individual Interviews

The individual interview data were qualitative data, which required qualitative content analysis methods. The researcher used conventional content analysis with an inductive coding approach (Hsieh & Shannon, 2005). The researcher followed an iterative process to review the data, apply codes, and identify themes that emerged from the data (Miles et al., 2020). The data analysis included multiple passes to review and revise the coding, and the researcher looked for
disconfirming evidence to ensure the validity of the findings (Shenton, 2004). The researcher also analyzed course artifacts, such as rubrics and essays, to identify examples of the themes that participants discussed in their interviews. Relevant examples from the course artifacts are excerpted to illustrate themes in the next chapter’s results and discussion sections. Finally, the researcher had a research assistant code a segment of the interview data as a point of comparison, and the researcher negotiated and revised these codes and themes as necessary to achieve agreement. This process helped establish the inter-rater reliability of the coding, which increases the credibility of the qualitative results (Shenton, 2004).

Conclusion

This chapter provided an overview of the intervention to treat the challenge of low academic writing achievement among adult ELL students. The study involved a mixed methods convergent parallel design that the researcher implemented in an adult ELL academic writing course at Middlebury Institute of International Studies during the fall 2020 semester (Creswell & Plano Clark, 2018). This chapter also introduced the study design and the eight research questions that guided the process and outcome evaluations. Finally, the chapter provided a detailed explanation of the research methods and procedures that the researcher used for the study.

Chapter 5

Findings and Discussion

This chapter describes the study implementation process and introduces the findings of the intervention study. The chapter includes a summary of the process evaluation, which serves to evaluate whether the intervention was implemented as planned and whether there were any
noteworthy variations on the implementation plan (Rossi et al., 2019; Stufflebeam, 2003). In addition, the chapter will present the results of the outcome evaluation. The process and outcome evaluations are necessary to establish the causal links between the intervention elements and the observed effects (Leviton & Lipsey, 2007). The outcome evaluation examines whether the intervention mechanisms postulated in the theory of treatment actually resulted in the theorized effects on the study participants (Rossi et al., 2019). Additionally, the process and outcome evaluations will help determine whether the researcher faithfully implemented each of the planned intervention process elements as illustrated in the logic model (see Appendix K) and whether implementation of these elements produced the intended outcomes.

The study evaluation examined potential links between the intervention variables and the observed outcomes. Due to the non-experimental design, it was not possible to make causal claims about these links (Shadish et al., 2002). However, the researcher included multiple observations of the study variables to help increase the internal validity of the study. The focal outcome variables for the study included the following: second language writing anxiety, second language writing self-efficacy, and writing performance. According to Rossi et al. (2019), mediating variables are proximal outcomes affected by the treatment that, in turn, influence more distal outcomes. Prior studies have shown that self-efficacy for writing is a mediating variable that can influence writing anxiety and writing performance (Pajares & Johnson, 1994, 1996; Woodrow, 2011; Zabihi, 2018). In this study, self-efficacy for writing was the mediating, proximate variable that had a hypothesized relationship to the outcomes of second language writing anxiety and writing performance.

The researcher used peer review interactions as a pedagogical treatment to build students’ self-efficacy for writing and to help reduce their anxiety about writing in English. Peer review
has shown to be a useful pedagogical strategy for improving important outcomes for academic writing for adult English learners, including writing anxiety, writing self-efficacy, and writing performance (Choi, 2013; Jahin, 2012; Kurt & Atay, 2007, Yastibas & Yastibas, 2015). As seen in the logic model, second language writing anxiety and second language writing self-efficacy were short-term outcomes for the study. Writing performance was an intermediate outcome, and course achievement was a long-term outcome. A peer review writing intervention was implemented in order to test the hypothesized relationship between peer review activities and the previously mentioned outcomes for the study.

**Implementation**

The peer review intervention was implemented during the fall semester 2020 at the Middlebury Institute of International Studies. The researcher implemented the intervention and conducted the research in the 300-level Editing Writing course in which he also served as the instructor. The course took place from August 24 to December 11, 2020, but the intervention activities and data collection occurred from September 24 to December 11. Table 8 below provides an overview of the dates and sequence for the intervention activities and data collection. This chapter will provide documentation of the implementation process, which helps identify and variation between the study plan and the actual implementation of that plan (Stufflebeam, 2003).
The intervention implementation included ongoing data collection activities in addition to the core intervention activities. Due to the COVID-19 pandemic, all course activities and data collection activities occurred online. At total of 12 students enrolled in the Editing Writing course, two of whom audited the course. A total of eight students signed informed consent forms, agreeing to participate in the research. Prior to the start of the intervention the eight participants completed the pre-intervention test of writing performance and responded to the SLWAI and

<table>
<thead>
<tr>
<th>Activity</th>
<th>Completion</th>
<th>Participants</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-writing test</td>
<td>Yes</td>
<td>8</td>
<td>September 24, 2020</td>
</tr>
<tr>
<td>Pre-surveys</td>
<td>Yes</td>
<td>3</td>
<td>September 24-October 7, 2020</td>
</tr>
<tr>
<td>Pre-interview</td>
<td>Yes</td>
<td>8</td>
<td>September 24-October 7, 2020</td>
</tr>
<tr>
<td>Practice session one</td>
<td>Yes</td>
<td>7</td>
<td>October 8, 2020</td>
</tr>
<tr>
<td>Practice session two</td>
<td>Yes</td>
<td>8</td>
<td>October 13, 2020</td>
</tr>
<tr>
<td>Peer review one</td>
<td>Yes</td>
<td>8</td>
<td>October 16-19, 2020</td>
</tr>
<tr>
<td>Peer review two</td>
<td>Yes</td>
<td>8</td>
<td>November 1-9, 2020</td>
</tr>
<tr>
<td>Peer review three</td>
<td>Yes</td>
<td>8</td>
<td>November 29-December 6, 2020</td>
</tr>
<tr>
<td>Peer review four</td>
<td>No</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>Post-writing test</td>
<td>Yes</td>
<td>8</td>
<td>December 8, 2020</td>
</tr>
<tr>
<td>Post-surveys</td>
<td>Yes</td>
<td>7</td>
<td>December 6-11, 2020</td>
</tr>
<tr>
<td>Post-interviews</td>
<td>Yes</td>
<td>3</td>
<td>December 6-11, 2020</td>
</tr>
</tbody>
</table>
SEWS surveys. A subsample of three participants also completed pre-intervention interviews with the researcher.

The peer review intervention consisted of practice peer review class sessions and three cycles of peer review activities. The teacher facilitated two practice peer review sessions, during which students practiced performing peer review with sample texts and rubrics. All eight participants took part in the first practice session and seven participants took part in the second practice session. Participants actively engaged in the practice sessions, and there were minimal issues with implementation. Following the practice sessions, students completed three cycles of peer review activities. The original plan called for four cycles of peer review, but this had to be curtailed to four cycles due to the delay in beginning the study.

All eight research participants successfully completed all three of the peer-review cycles. Each peer review cycle involved completing a first draft of a text and then exchanging their text with a peer for peer feedback. The teacher randomly paired participants with different peers for each peer review cycle. Participants used rubrics and the track changes feature in Microsoft Word to provide feedback on their peers’ texts prior to meeting synchronously via Zoom to review and discuss the feedback. Next, participants received written feedback on their texts from the teacher. Lastly, participants reviewed the oral and written feedback on their texts and then revised and submitted a second draft of their text. See figure 3 below for illustration of the peer review activities completed during the intervention. After completing the peer review activities, all participating students took the post-test of writing performance and completed the post-surveys for the SLWAI and SEWS. The researcher also conducted post-intervention interviews with the same sub-sample of three participants from the pre-intervention interviews. Finally, the researcher trained two research assistants on how to use rubrics to rate the writing performance
tests, and these research assistants independently rated the tests and entered the scores in an Excel document.

**Figure 3**

*Illustration of peer review intervention activities*

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**Introductory Quantitative Analysis**

This section presents basic descriptive statistics about participants’ demographics. The intervention study included a sample of adult ELL students who were in their first semester of graduate studies at MIIS. A total of eight students (N=8) participated in the various intervention activities and data collection procedures. The majority of participants (63%) were from mainland China and spoke Mandarin Chinese as their native language (L1). In addition, one participant was from Egypt with Arabic as an L1, and another participant was from Taiwan with Mandarin Chinese as her L1. Lastly, there was one participant who was raised in mainland China and had
Cantonese as her L1, and she was a U.S. citizen. As a result, the primary L1 of participants was Mandarin Chinese with 75% of participants speaking this L1.

Participants in the study also tended to be younger. The mean age of participants was 24.5 years old, and their ages ranged from 22 to 32 years old. This sample of students was fairly representative of the overall EAPP program population and the international student population at MIIS. However, the low representation of non-Asian participants and male participants in the intervention might indicate a certain amount of bias in the study sample (Rossi et al., 2019).

Finally, all participants had the minimum English proficiency requirements for enrollment in the 300-level EAPP course. In order to enroll in their degree programs at MIIS, participants had to present evidence of one of the following: a score of 6.5 or higher on the IELTS test, a score of 80 or higher on the ibTOEFL test, or evidence of prior postsecondary study in English. As a result, all participants possessed an advanced level of English language proficiency at the start of the study. See Table 9 below for details about participants’ background information.
Table 9

Participant Demographic Information

<table>
<thead>
<tr>
<th></th>
<th>Citizenship</th>
<th>L1</th>
<th>Age</th>
<th>Pre-test</th>
<th>Post-test</th>
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<td>28</td>
<td>11</td>
<td>18.50</td>
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<tr>
<td>02</td>
<td>China</td>
<td>Mandarin</td>
<td>22</td>
<td>15</td>
<td>18</td>
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<tr>
<td>03</td>
<td>Taiwan</td>
<td>Mandarin</td>
<td>32</td>
<td>16</td>
<td>19</td>
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<tr>
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<td>China</td>
<td>Mandarin</td>
<td>22</td>
<td>17</td>
<td>18</td>
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<tr>
<td>05</td>
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<td>23</td>
<td>13.5</td>
<td>19.50</td>
</tr>
<tr>
<td>06</td>
<td>China</td>
<td>Mandarin</td>
<td>22</td>
<td>14.5</td>
<td>19.50</td>
</tr>
<tr>
<td>07</td>
<td>China</td>
<td>Mandarin</td>
<td>23</td>
<td>15.5</td>
<td>20</td>
</tr>
<tr>
<td>08</td>
<td>Egypt</td>
<td>Arabic</td>
<td>24</td>
<td>12</td>
<td>23</td>
</tr>
</tbody>
</table>

Mean   | 24.5 | 14.31 | 19.44 |
Median | 23   | 14.75 | 19.25 |
SD     | 3.63 | 2.03  | 1.61  |

Survey Responses

Study participants completed two surveys at pre-intervention and then again at post-intervention. Participants took the Second Language Writing Anxiety Inventory (SLWAI), which was the same survey that students completed in the needs assessment study. Participants also completed the Self-efficacy for Writing Scale (SEWS). The researcher ran descriptive statistical analysis on the survey responses for the pre- and post-intervention surveys. As illustrated in Table 10 below, the pre-intervention composite mean score on the SLWAI was 3.04 (N=8, SD=.62). This is similar to the results of the needs assessment, which observed a composite mean participant score of 2.91 on the SLWAI. According to Cheng (2004), these mean scores indicate a moderate level of writing anxiety. Moreover, analysis showed a decrease in the SLWAI scores from pre-intervention (3.04) to post-intervention (2.66). Descriptive statistics
were also calculated for the SEWS survey. At pre-intervention, participants had a mean composite score of 3.45 ($N=7, SD=.73$) on the SEWS survey, and they had a mean composite score of 3.87 ($N=7, SD=.40$) on the post-intervention survey, representing an increase in self-efficacy scores after the treatment. In addition, it is worthwhile to note that participants had a slightly higher baseline self-efficacy for writing mean score (3.45) than their baseline mean score for writing anxiety (3.04). The same relationship occurred in the post-intervention surveys. Participants had a post-intervention self-efficacy for writing mean score of 3.88 while their mean post-intervention writing anxiety score was 2.66.

Table 10

*Descriptive Statistics for Survey Responses*

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
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<td>Pre-test</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second Language Writing Anxiety Inventory (SLWAI) (n=8)</td>
<td>1.68</td>
<td>3.59</td>
<td>8</td>
<td>3.04</td>
<td>.62</td>
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<tr>
<td>Self-efficacy for Writing Scale (SEWS) (n=7)</td>
<td>2.31</td>
<td>4.44</td>
<td>7</td>
<td>3.45</td>
<td>.73</td>
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<tr>
<td>Post-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second Language Writing Anxiety Inventory (SLWAI) (n=7)</td>
<td>1.77</td>
<td>3.18</td>
<td>7</td>
<td>2.66</td>
<td>.47</td>
</tr>
<tr>
<td>Self-efficacy for Writing Scale (SEWS) (n=7)</td>
<td>3.25</td>
<td>4.44</td>
<td>7</td>
<td>3.87</td>
<td>.40</td>
</tr>
</tbody>
</table>

*Note.* Data in this table are from the composite scores of participants for each pre- and post-survey.

*a* Participation for this survey was higher than other surveys. Participants who did not complete the both the pre- and post-surveys were removed from matched samples for inferential statistics.
Reliability of Measures

The study included two survey instruments that were administered to participants at pre-intervention and post-intervention. These surveys were the Second Language Writing Anxiety Inventory (SLWAI) and the Self-efficacy for Writing Scale (SEWS). Analysis of the pre-intervention survey results indicated acceptable reliability for both surveys. The SLWAI had a high overall Cronbach’s Alpha of 0.93. Additionally, each of the subscales for the SLWAI had acceptable reliability levels. The somatic anxiety subscale had a Cronbach’s Alpha of 0.87, and the avoidance behavior subscale had a Cronbach’s Alpha of 0.76. The cognitive subscale had a Cronbach’s Alpha of 0.81. The analysis of the SEWS responses also produced an acceptable reliability. The Cronbach’s Alpha for this survey was 0.92. The researcher also ran an item-deletion reliability analysis of both surveys. This analysis identified acceptable reliability levels for all items in both surveys. As a result, no items were deleted from either survey.

Efforts also were made to ensure the reliability of the researchers’ ratings of the writing performance test. In order to limit potential researcher bias, the researcher had research assistants serve as raters for the writing tests. Two experienced ELL faculty members at MIIS reviewed and independently rated each participant’s pre-test and post-test of writing performance. Although there was variation between raters on the scores for each participant, the raters’ mean scores for the tests were similar. For instance, the pre-test mean score for rater one was 15, and the pre-test mean score for rater two was 13.63. The post-test mean score for rater one was 19.13 while the post-test mean score for rater two was 19.75. The researcher also ran a Pearson Correlation Coefficient test to examine potential associations between the two rater’s scores. The Pearson test did not result in any statistically significant positive correlations between raters.
Nevertheless, the highly similar mean ratings of the two raters on the pre-test and post-test indicates a sufficient level of reliability for the ratings.

**Correlational Data**

The researcher also examined associations between the pre-intervention and post-intervention survey results. The Pearson Correlation Coefficient test produced several expected correlations, which are illustrated in Appendix M. First, the pre-test survey results had a significant positive correlation with the post-test results. For instance, the pre-intervention SLWAI results had a significant positive correlation \( (r=0.80, p<.05) \) with the post-intervention SLWAI results. Similarly, the pre-SEWS survey results produced a significant positive correlation with the post-SEWS results \( (r=0.88, p<.01) \). Prior research has shown that writing anxiety and self-efficacy for writing often have an inverse relationship (Pajares & Johnson, 1994, 1996; Woodrow, 2011). Indeed, the Pearson test provided some evidence of this relationship in the study sample although the association was non-significant. As illustrated in Appendix M there was a non-significant negative correlation \( (r=-0.62, p=0.13) \) between the pre-intervention SLWAI survey results and the pre-intervention SEWS results. In addition, there was a non-significant negative correlation \( (r=-0.47, p=0.28) \) between the post-intervention SLWAI and the post-intervention SEWS. These results point towards confirmation of prior research findings though the results from this study were likely underpowered due to a small sample size, which limited the ability to find any true association.

**Introductory Qualitative Analysis**

This section of the chapter briefly introduces the primary themes that were identified in the qualitative data analysis. The qualitative data included recorded interviews with a sub-sample of three research participants. Interviews were conducted at pre-intervention and post-
intervention using the semi-structured interview protocol provided in Appendix I. The researcher used a conventional content coding approach in which codes were identified inductively and themes were allowed to emerge as a result of an iterative coding process (Hsieh & Shannon, 2005). The pre-interview and post-interview data were analyzed separately, which resulted in identification of separate but related themes for each set of interview data. Moreover, the researcher used holistic coding for the first cycle of coding, which is a method of applying codes to large segments of text in preparation for second cycle coding (Miles et al., 2020). Next, during the second cycle of coding, a variety of coding techniques were used, including descriptive coding, in vivo coding, emotion coding, and process coding. Following multiple rounds of reading and iteratively applying codes, the codes were clustered into themes. Prior to confirming the themes, the researcher reviewed the data for disconfirming evidence and iteratively examined themes until thematic data saturation was achieved (Miles et al., 2020). The subsequent sections introduce the pre-intervention and post-intervention interview themes that are presented in Table 11 below.
<table>
<thead>
<tr>
<th>Pre-interview</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Cycle Holistic Coding</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Cycle Coding</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time pressure Evaluation</td>
<td>“feel pressure”</td>
<td>“feel much better”</td>
<td>Emotional Development</td>
</tr>
<tr>
<td></td>
<td>“college entrance exam”</td>
<td>“anxiety is decreased”</td>
<td>Improvement in Anxiety and/or self-efficacy for writing.</td>
</tr>
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<td></td>
<td>IELTS Test x3</td>
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</tr>
<tr>
<td></td>
<td>+/-Practice</td>
<td>“helpful suggestions”</td>
<td>Participants collaborated to improve understanding of writing</td>
</tr>
<tr>
<td>Model Writing Support</td>
<td>Example texts</td>
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<td>Negotiating Understanding</td>
</tr>
<tr>
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<td>“useful sentences”</td>
<td>“helpful suggestions”</td>
<td>Participants collaborated to improve understanding of writing</td>
</tr>
<tr>
<td></td>
<td>“inspired by ideas”</td>
<td>Revising</td>
<td></td>
</tr>
<tr>
<td>+/-Emotions</td>
<td>“feel more confident”</td>
<td>“definitely improved”</td>
<td>Linguistic Development</td>
</tr>
<tr>
<td></td>
<td>“very depressed”</td>
<td>Learning from peer</td>
<td>Times when participants mentioned improving aspects of their writing</td>
</tr>
<tr>
<td>Post-interview</td>
<td>+/- Confidence</td>
<td>“feel much better”</td>
<td>Emotional Development</td>
</tr>
<tr>
<td></td>
<td>+/-Anxiety</td>
<td>“anxiety is decreased”</td>
<td>Improvement in Anxiety and/or self-efficacy for writing.</td>
</tr>
<tr>
<td>Reader’s perspective</td>
<td>“not that clear”</td>
<td>“helpful suggestions”</td>
<td>Negotiating Understanding</td>
</tr>
<tr>
<td>Peer interactions</td>
<td>“very depressed”</td>
<td>Participants collaborated to improve understanding of writing</td>
<td></td>
</tr>
<tr>
<td>Writing process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Modeling</td>
<td>Learning from peer</td>
<td>Times when participants mentioned improving aspects of their writing</td>
<td></td>
</tr>
<tr>
<td>Writing Improvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11

*Coding Process and Example Codes*
**Pre-Intervention Themes**

This section introduces the four themes that were identified for the pre-intervention interview data. Although separate themes were identified for the pre- and post-interviews, there were clear connections between the pre and post interview themes.

**Stressful Experiences**

The theme of *stressful experiences* refers to prior language learning experiences involving feelings of stress or pressure. This theme refers to primarily negative prior language learning experiences that influenced how participants perceived their English language writing development. For instance, the in vivo code “feel pressure” was used to code for a participant experiencing stress related to writing under time pressure. In addition, all participants mentioned feeling stress related to completing writing tasks on standardized English exams, especially the IELTS test. The descriptive code IELTS Test was used to code for times when participants mentioned stress about taking the IELTS writing test. The theme of *stressful experiences* is coherent with prior research on second language anxiety. Horwitz et al. (1986) identified test anxiety and fear of negative evaluation as core components of second language anxiety.

**Learning to Write**

In the pre-intervention interviews, participants responded to questions about their prior experiences learning to write in English. Participants cited numerous examples of their prior writing instruction and practice. While students mentioned some positive prior experiences, students tended to focus on negative prior experiences with learning to write. Participants provided numerous examples of prior writing pedagogy that they found to be ineffective, and they discussed limited opportunities to practice their English writing in a meaningful way. One of the most prevalent descriptive codes for this theme was *grammar focus*, which was used when
participants described writing instruction that focused on memorization of grammar rules.

Moreover, several participants expressed that their prior English courses did not provide many opportunities to practice writing, and they mentioned that most prior writing practice involved preparation for passing standardized English exams.

**Linguistic Resources**

Participants frequently cited instances in which they relied upon various forms of linguistic input for their writing development, including language support from teachers, peers and various text-based resources. According to sociocultural theory, language learning is mediated through symbol-based interactions with affordances in the learning environment (Gee, 2008; Vygotsky, 1978). These affordances can take the form of more knowledgeable peers, teachers, and text resources that are used to support language development. The theme of *linguistic resources* refers to situations when participants noticed and used a linguistic resource to help improve their English writing. For instance, the descriptive code *example texts* was used when participants mentioned using a sample text as a model for their writing, and the in vivo code “inspired by ideas” was used when participants discussed learning some new ideas from reading a peer’s text. This theme involved proximal processes for improving participants’ writing, and it involved linguistic resources shared in the learner’s microsystems and mesosystems (Bronfenbrenner & Morris, 2006).

**Feelings about Writing**

The final theme from the pre-interviews was *feelings about writing*. This theme relates to instances in which participants discussed either positive or negative feelings concerning prior English writing experiences. Common emotions included feelings of low or high confidence, anxiety about writing, and embarrassment about writing. For example, the in vivo code “always
feel anxiety” covered feelings of anxiety about writing in classes, and the descriptive code 
*embarrassed* was used when participants mentioned feeling embarrassed about their writing. As 
discussed in the intervention conceptual framework, prior learning experiences can contribute to 
feelings of low self-efficacy and high anxiety about writing in English. Studies indicate that 
these prior experiences can influence current writing performance and ability to learn effectively 

**Post-intervention Themes**

This section will introduce the themes that emerged from the post-intervention interview 
data. The researcher identified three themes from the participant interviews: *emotional 
development, negotiating understanding, and linguistic development.*

**Emotional Development**

The peer review intervention focused on improving the proximal outcomes of 
participants’ writing anxiety and their self-efficacy for writing. The theme of emotional 
development emerged as a theme related to improvement to these affective outcomes. All three 
interviewees described ways that the intervention contributed to increased confidence for writing 
and decreased writing anxiety. The in vivo code “feel more confidence” was used to indicate 
improvement to participant self-efficacy as a result of the intervention activities while the code 
“anxiety decreased” referred to improvement in participants’ writing anxiety. These initial 
findings are consistent with other research on peer review, which also found that peer review 
helped reduce writing anxiety and improve self-efficacy (Phakiti et al., 2013; Zabihi, 2018).

**Negotiating Understanding**

Second language acquisition research emphasizes the important role that negotiation 
among learners plays in language learning (Long, 1996; Schmidt & Frota, 1986; Swain & Lapkin,
Negotiation in this context refers to language-mediated interactions in which learners use the target language to resolve communication break downs and to test hypotheses about how the language works. The theme of negotiating understanding draws on this conception of language acquisition. This theme was used to describe times when participants collaborated to identify and correct writing errors and develop their understanding of effective academic writing. Participants negotiated understanding in a variety of ways, including when they focused on understanding how readers perceived their texts and when they provided and responded to feedback on texts. For example, the in vivo code “not that clear” was used when participants mentioned that a passage of text would have been difficult to understand for readers. The descriptive code feedback was one of the most commonly applied codes. This code identified times when participants discussed providing each other with feedback on their writing. Other descriptive codes, such as revising and strategies, indicated references to revising texts and implementing strategies from the intervention.

**Linguistic Development**

The intervention targeted improvement to students’ writing performance, which was the intermediate outcome of the intervention (Rossi et al., 2019). The interview participants all spoke at various points about the ways that the intervention improved their academic writing. When participants spoke about improvements to their academic writing, they usually did so by referencing ways that the intervention helped develop their language knowledge and knowledge of academic writing conventions. For instance, the descriptive code learning from peer indicated times when participants mentioned learning new vocabulary, concepts, and methods of organizing texts from their peers. In addition, the codes improving and independence were used to note instances when participants explicitly mentioned the intervention helping improve their
academic writing and helping them become more independent writers. Overall, participants cited numerous examples of interactions with peers and teachers that helped develop their knowledge of academic writing and their writing performance.

Summary

This section has provided an introduction to the study implementation and the initial results of the quantitative and qualitative data analysis. The initial data analysis pointed to the possible efficacy of the peer review intervention. The next section of this chapter examines the study findings in more detail and responds to each of the study’s research questions.

Findings

The intervention study included eight research questions that guided the direction of data collection and data analysis. This section presents each of the research questions and provides analysis and discussion of the findings as they relate to each research question. The eight research questions are provided below:

1. Research Question One: Did the intervention include two practice peer review sessions and four actual peer review sessions that incorporated all of the planned activities?
2. Research Question Two: Did participants fully complete all of the delivered peer review activities?
3. Research Question Three: What was the level of quality of the teacher-led peer review activities?
4. Research Question Four: What was the level of student participation in the peer review feedback discussions?
5. Research Question Five: Which component(s) of the intervention do participants view as essential for decreasing writing anxiety?

6. Research Question Six: To what extent did students’ experience of writing anxiety change after participating in the peer review writing intervention, and what was the nature of the change?

7. Research Question Seven: To what extent did students’ experience of self-efficacy for writing change after participating in the peer review writing intervention, and what was the nature of the change?

8. Research Question Eight: To what extent did the intervention contribute to improvement in students’ writing performance, and to what extent did students perceive this change as related to the intervention?

**Intervention Implementation Fidelity (RQ 1)**

One of the purposes of the process evaluation is to assess whether each of the planned components of the intervention was implemented as intended (Rossi et al., 2019; Stufflebeam, 2003). The first research question addressed the extent to which the researcher implemented each of the proposed intervention elements. Research question one reads as follows: “Did the intervention include two practice peer review sessions and four actual peer review sessions that incorporated all of the planned activities?” As illustrated in Table 12 below, the two practice peer review sessions were implemented as planned. The intervention was planned to include a total of four cycles of peer review activities for each of the eight participants. However, due to delays in obtaining Institutional Review Board approval for the study, the researcher was only able to implement three of the four planned peer review cycles.
Measurements of implementation fidelity are important because they help establish the mechanism for any observed treatment effects (Leviton & Lipsey, 2007). The researcher implemented 100% of the planned practice sessions and 75% of the planned peer review activities. This represents an adequate level of implementation fidelity. Other similar intervention studies that identified positive treatment effects included a similar number or fewer of intervention activities (Choi, 2013; Jahin, 2012). It is reasonable to conclude that the intervention included a sufficient quantity of activities to support the hypothesized treatment mechanism described in the logic model in Appendix K. Thus, despite the shortened length of treatment, participants likely had enough opportunities to engage in the essential activities that were necessary to produce the intended effects of the intervention.

**Table 12**

*Schedule of Planned Peer Review Activities*

<table>
<thead>
<tr>
<th>Activity</th>
<th>Completion</th>
<th>Participants</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice session one</td>
<td>Yes</td>
<td>8</td>
<td>October 8</td>
</tr>
<tr>
<td>Practice session two</td>
<td>Yes</td>
<td>7</td>
<td>October 13</td>
</tr>
<tr>
<td>Peer review cycle one</td>
<td>Yes</td>
<td>8</td>
<td>October 16-19</td>
</tr>
<tr>
<td>Peer review cycle two</td>
<td>Yes</td>
<td>8</td>
<td>November 1-9</td>
</tr>
<tr>
<td>Peer review cycle three</td>
<td>Yes</td>
<td>8</td>
<td>November 29-December 6</td>
</tr>
<tr>
<td>Peer review cycle four</td>
<td>No</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Participant Completion of Peer Review Activities (RQ 2)**

The second research question addressed whether participating students completed each of the planned intervention activities. Research question two reads as follows: “Did participants fully complete all of the delivered peer review activities?” This research question was related to the *dose received* of the treatment. According to Rossi et al. (2019) the *dose received* refers to the extent to which participants engaged with the intervention activities and utilized the
intervention materials as intended. The intervention activities included practice conducting peer review and various text composition and revision activities. The implemented peer review activities consisted of two practice peer review sessions and three cycles of peer review activities. Furthermore, each individual peer review cycle included the following tasks: compose first draft, provide feedback to peer, engage in peer review discussion with peer, and compose second draft based on peer and teacher feedback.

The researcher used a process monitoring activity log to monitor implementation of the planned activities as well as participant engagement in the activities. This activity log was updated regularly, ensuring the accuracy of the data (Rossi et al., 2019). Participants were assigned a binary score of zero or one for each intervention activity. Scores of zero represented non-completion of an activity and scores of one represented acceptable completion of an activity. There were 14 total intervention activities that participants could participate in. According to the intervention activity log, all participants completed all of the 14 delivered activities, except for one participant who was absent for one of the peer review practice sessions. As further evidence of participant engagement, the researcher collected copies of the participants’ essay drafts, peer feedback, and completed peer feedback rubrics. Although some participants submitted documents late, all participants eventually submitted all of the required documents. As a result, it appears there was an exceptionally high level of treatment dose received, indicating a high level of participant engagement with the intervention activities (Rossi et al., 2019). The subsequent research questions address the level of quality of implementation and engagement in the intervention activities.
**Quality of Intervention Delivery (RQ3)**

Successful interventions depend not only on delivering sufficient quantity of activities but also on delivering sufficient quality of services (Dusenbury et al., 2003; Rossi et al., 2019). The third research question focused on the quality of the implemented peer review activities. Research question three reads as follows: “What was the level of quality of the teacher-led peer review activities?” As Dusenbury et al. (2003) mention, quality of delivery entails more than simply presenting information to participants; quality delivery must facilitate meaningful interaction among participants. To this end, researchers recommend utilizing external observers who can objectively view and rate the effectiveness of the delivery of activities (Dusenbury et al., 2003; Stufflebeam, 2003). As a result, an external research assistant was used to observe and rate the quality of the peer review practice sessions. The research assistant (henceforth rater one) was the senior-most faculty member in the EAPP program, and she had the most experience of any faculty member with instructing academic writing to adult ELLs. Thus, she was highly qualified to rate the quality of the teacher’s instruction during the peer review practice lessons.

The measurement for quality of delivery was rater one’s ratings of the peer review practice sessions. Rater one viewed video recordings of the two practice sessions, and she rated the quality of instruction for each practice session. The rater used an adapted version of Piburn et al.’s (2000) Teacher Observation Protocol, which is a validated instrument for evaluating the quality of instruction during teacher observations. The protocol includes eight criteria that can each be rated 1-4 with total possible scores on the instrument ranging from 8-32. Using video recordings of lessons and the observation protocol, rater one rated the quality of instruction for both practice sessions as 30 out of a total possible score of 32. Despite slightly lower ratings on two of the criteria, both practice session lessons received high overall ratings. These ratings
indicate that the quality of delivery of the intervention was high. In addition, since there was a high level of participant completion of intervention activities, it seems reasonable to conclude that participants were adequately prepared to complete these activities independently. As the next section will explain, participants also completed the peer review discussion activities with a sufficient level of engagement.

**Participant Responsiveness (RQ4)**

The fourth research question concerned the level of participant responsiveness to the intervention activities. This research question reads as follows: “What was the level of student participation in the peer review feedback discussions?” Participant responsiveness refers to the level of student engagement with the intervention activities and the pedagogical materials that were part of the intervention (Dusenbury et al., 2003). Previous findings have shown that the level of participation in the intervention activities was high; however, it is equally important to consider whether participants actively engaged in quality interactions during these activities. Measurements of participant responsiveness were collected throughout the duration of the peer review intervention, including the Student Observation Protocol and the Researcher Diary.

**Student Observation Protocol**

The researcher used and adapted version of the Student Observation Protocol to rate the level of participant responsiveness during the peer review discussion sessions that different pairs of students participated in. The Student Observation Protocol is a validated instrument developed and tested by Piburn et al. (2000) for measuring the quality of student interactions during class observations. The adapted Student Observation Protocol consisted of three bands, or criteria, which assessed the following factors: *communication of ideas, proportion of student talk,* and *language related episodes*. Ratings of 1-4 were possible on each band with a score of one
indicating that the behavior never occurred and a score of four indicating that the behavior occurred frequently. The minimum possible score for a peer review discussion session was three, and the maximum possible score was 12. The researcher watched recordings of all 12 peer review discussion recordings.

Participant responsiveness was measured for each participating student using the Student Observation Protocol. The student mean for all three discussions was a relatively high score of 10.25. In fact, the mean remained relatively consistent across all three discussion sessions. The composite student means for discussion one, two, and three were 10, 10.50, and 10.25 respectively. Even though there was a high overall mean, there was a wide range of individual student mean scores. The range of student mean scores was 7.0-11.67. This range of scores indicates that individual participants were more or less responsive to the peer review discussions. Nevertheless, the relatively high mean score for all students points towards a favorable level of participant responsiveness to one of the most critical intervention activities.

**Researcher Diary**

The researcher diary also provided some insights into features of participant responsiveness related to the intervention. The researcher maintained a diary to document details of the intervention implementation. According to the diary, students participated actively in the intervention activities and there were few issues that arose. For instance, following the first practice peer review lesson, the researcher reflected that “the planned activities for this first training were appropriate, and the training achieved the stated goals” (Researcher Diary, October 8, 2020). The diary also noted that participants used the practice peer review materials and engaged in the practice peer review activities generally as planned. The excerpt below from the
diary speaks to the researcher’s overall positive assessment of participant responsiveness to the various intervention components following completion of the first cycle of peer review activities:

The students recently completed the first cycle of the peer review intervention. All the participants participated in the two training sessions and the peer review discussions except one student who missed the second training session. The first peer review discussions among students seemed to go well. Several students had positive comments about the process in their short reflections (written for the course). (Researcher Diary, October 26, 2020)

Although participant engagement was generally positive and unproblematic, the researcher documented a few limited issues with participant responsiveness. First, participants experienced some difficulty with the role play activity during the second practice peer review lesson. According to the diary, participants struggled to perform the peer review role play activity during the second practice session (Researcher Diary, October 15, 2020). Instead of taking turns role-playing giving feedback to each other using the sample text, participants simply discussed the text and made comments/revisions to the text. Following this lesson, the researcher reflected in the diary that the activity could have been improved by having students give each other real feedback on excerpts from their own texts (Researcher Diary, October 15, 2020). Another issue with participant responsiveness involved a potential problem with overly responsive participants. After reviewing participant feedback from the first peer review cycle, the researcher noted that some participants seemed to have given excessive amounts of feedback. The following excerpt from the research diary highlighted this issue:

When I reviewed the comments that the peers made on their classmate’s texts, I noticed that one or two students wrote a lot of corrections. This resulted in at least one student
receiving a reviewed text that was covered with corrections. I am concerned that this might have demotivated the student because he mentioned to me (during office hours) that he was concerned about all his errors. (Researcher Diary, October 26, 2020)

According to the diary, this problem was limited to just a couple students; however, the issue was sufficient to merit a note in the diary to improve guidelines for giving feedback in future iterations of the course.

Despite the aforementioned issues with participant responsiveness, the majority of the intervention activities involved a high level of participant responsiveness. The next section will explore in more detail how participants viewed the importance of different intervention components.

**Program Differentiation (RQ5)**

The fifth research question involved students’ perception of the various intervention components. This research question read as follows: “Which component(s) of the intervention do participants view as essential for decreasing writing anxiety?” One of the goals of program evaluation is to determine the essential components of an intervention and to determine the minimum quantities of those components for producing the desired program outcomes (Leviton & Lipsey, 2007). Measuring program differentiation is one aspect of gauging whether the components promoted or hindered the desired intervention effects (Dusenbury et al., 2003). Several data sources were useful in answering RQ5, including the qualitative interview data, and the researcher diary.

Participants provided information during the post-intervention interviews that was relevant to the issue of program differentiation. In response to the third interview question, participants addressed which aspects of the program they found most and least helpful for their
writing development. Prior to answering the question, participants listened to a summary of the intervention components, and participants reviewed several artifacts from the intervention. In their interview responses, participants referenced several aspects of the intervention that they found useful. Table 13 below illustrates the intervention components that participants described as being useful, and this table also includes the related emergent coding themes from the qualitative data analysis. Furthermore, Appendix P provides participant quotations related to this research question. As illustrated in Table 13 below, participants mentioned that most intervention components were useful for their writing development, but there were several components that participants found to be less useful.

Table 13

<table>
<thead>
<tr>
<th>Related Interview Theme</th>
<th>Related Intervention Components</th>
<th>Mentioned usefulness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negotiating Understanding</strong></td>
<td>Working with multiple partners</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Practice sessions</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>All activities were useful</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Peer feedback/discussions</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Teacher feedback</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Using rubrics</td>
<td>0</td>
</tr>
<tr>
<td><strong>Linguistic Development</strong></td>
<td>Reading peer texts</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Revising texts (two drafts)</td>
<td>3</td>
</tr>
</tbody>
</table>

*Note.* The final column indicates the total number of interviewees (n=3) who described the component favorably in the post-intervention interviews.
**Most Helpful Components**

Participants tended to agree on the components that they viewed as most helpful for their writing development. For instance, in response to interview question three, all three interviewees similarly claimed that each intervention activity was useful and none needed to be discontinued. For instance, Participant 02 responded that, “I think they [the peer review activities] are all quite useful for me because these activities…focus on different aspects of academic writing, so I can use different strategies to finish this assignment” (Participant 02, 2020). In particular, participants most frequently mentioned the usefulness of receiving written and oral feedback on their writing from their peers and teachers. For instance, the descriptive code *feedback* was used nine times, and the descriptive code *finding mistakes* was used six times (Miles et al., 2020). The frequency of these codes indicated that students found error correction and advice on their texts to be highly useful. In addition, all participants mentioned that it was useful to revise their texts after reviewing feedback. The descriptive code *revising* was used five times to indicate instances in which participants discussed the usefulness of revising their texts. One participant spoke to the importance of thinking critically about feedback before revising her texts: “So I think the last revision helps me a lot because this revision is based on your revision and my own thoughts after I review others.” This statement seemed to echo one of the goals of the intervention, which was to help make students capable of independently reviewing and improving their own writing.

Interviewees also stated that reading peer texts and working with multiple partners were important components for the intervention. All three participants referenced using peer texts as models for academic language use, which related to the theme of *linguistic development*. For example, the descriptive code *learning from peer* was used to note instances when participants mentioned utilizing a peer’s text as a model for effective writing. Furthermore, all three
interviewees discussed the usefulness of working with different partners. The researcher used the descriptive code *peer pairing* five times to note times when interviewees focused on the advantages or disadvantages of a particular peer pairing. When discussing peer pairings, participants emphasized that they could learn different skills from working with different peers because all students had different strengths and weaknesses. For example, Participant 02 explained, “I think because we all write different things, and we use different writing format and grammars, so, yeah, I can also learn much about their essay” (Participant 02, 2020). Although most peer interactions appeared to be positive, some participants mentioned having disagreements with their peers during the peer discussions. The descriptive code *disagreement* was used seven times to denote interactions between peers involving some level of disagreement about text feedback. Since some peer pairings seemed to be less compatible, including the opportunity to work with different peers appears to be a necessary component of the intervention.

**Less Helpful Components**

Participants appeared to view certain intervention components as less helpful than other components. First, no participants explicitly mentioned the practice peer review sessions as being particularly helpful. Even though none of the participants referenced the practice sessions during their interviews, the Researcher Diary indicates that the participants successfully completed most of the activities during the two practice sessions. As a result, it is possible that the practice session was helpful, but participants simply did not mention it during the interview. Another aspect of the intervention that participants failed to discuss was the use of rubrics to guide feedback about the texts. Prior peer review intervention studies all recommended using a rubric or checklist to focus participants’ attention on specific aspects of the text (Choi, 2013; Jahin,
2012; Kurt & Atay, 2007). However, participants did not seem to register this component as being particularly important for performing the peer review. In fact, the researcher also noted issues with the rubrics in the Researcher Diary. In a diary entry the researcher noted the following:

While I was grading the first essays, I noticed that the rubric was limited and could be improved. The first rubric for the first paper only incorporates outcomes from the most recent classes. It does not include outcomes from earlier class content. As a result, a student could score perfectly on the rubric but still have significant problems in their text due to mistakes with previous learning objectives. (Researcher Diary, October 27, 2020)

The preceding excerpt from the Researcher Diary may indicate one reason why participants viewed the rubrics as less helpful. It is possible that the rubrics did not sufficiently cover the target language elements from the course, which might have made them less useful for providing feedback. In sum, interviewees seemed to view the rubrics and practice peer review sessions as being less essential to the success of the intervention.

**Second Language Writing Anxiety (RQ6)**

Research question six was concerned with whether participants’ experiences of second language writing anxiety changed following the peer review intervention. This research question reads as follows: “To what extent did students’ experience of writing anxiety change after participating in the peer review writing intervention, and what was the nature of the change?” The researcher collected and analyzed both quantitative and qualitative data to help answer this research question.
Quantitative Findings

The study included a pre-intervention and post-intervention administration of Cheng’s (2004) Second Language Writing Anxiety Inventory (SLWAI). This was a 22-item Likert scale survey instrument that has been validated as a reliable instrument for measuring ELLs levels of writing anxiety. The survey scale included a range of possible answers from a low of one (strongly disagree) to a high of five (strongly agree).

The researcher conducted descriptive statistical analyses to examine the differences between participants’ pre-intervention and post-intervention mean scores on the SLWAI. As illustrated in Table 14 below, there was a decrease in mean scores on the SLWA from pre-intervention to post-intervention, which included decreases in the overall composite score and on each of the subscale scores. Specifically, participants’ composite scores on the SLWAI decreased from a pre-intervention mean of 3.04 ($N=8$, $SD=.62$) to a post-intervention mean of 2.66 ($N=7$, $SD=.47$). Meanwhile, there was a decline from a pre-intervention mean of 3.04 ($N=8$, $SD=.75$) to a post-intervention mean of 2.74 ($N=8$, $SD=.88$) on the somatic anxiety subscale. Scores on the avoidance behavior subscale declined from 2.57 ($N=8$, $SD=.62$) to 2.26 ($N=8$, $SD=.64$). The largest decline was observed for the cognitive subscale, which is the subscale used to measure participants’ fear of being evaluated for their writing in English. Scores on this subscale declined from 3.45 ($N=8$, $SD=.63$) at pre-intervention to 2.95 ($N=8$, $SD=.46$) at post-intervention.
The quantitative results point towards possible improvement in participants’ experiences with writing anxiety following participation in the intervention. Figure 4 below illustrates the observed decline in the survey scores from pre-intervention to post-intervention. These results indicate that, on average, study participants collectively reported a decline in their experiences with second language writing anxiety following the peer review treatment. Inferential statistics were not conducted due to the anonymous nature of the survey results, which precluded running paired-samples tests. Nevertheless, the results from the descriptive statistical analysis indicate that the peer review intervention may have contributed to decreases in writing anxiety among participants. The qualitative data results provide additional support for the intervention’s perceived efficacy among participants.

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-test</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composite</td>
<td>1.68</td>
<td>3.59</td>
<td>8</td>
<td>3.04</td>
<td>.62</td>
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<tr>
<td>Somatic</td>
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<td>3.71</td>
<td>8</td>
<td>3.04</td>
<td>.75</td>
</tr>
<tr>
<td>Avoidance</td>
<td>1.71</td>
<td>3.43</td>
<td>8</td>
<td>2.57</td>
<td>.62</td>
</tr>
<tr>
<td>Cognitive</td>
<td>2.00</td>
<td>4.13</td>
<td>8</td>
<td>3.45</td>
<td>.63</td>
</tr>
<tr>
<td><strong>Post-test</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composite</td>
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<td>3.18</td>
<td>7</td>
<td>2.66</td>
<td>.47</td>
</tr>
<tr>
<td>Somatic</td>
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<td>4.00</td>
<td>7</td>
<td>2.74</td>
<td>.88</td>
</tr>
<tr>
<td>Avoidance</td>
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<td>3.29</td>
<td>7</td>
<td>2.26</td>
<td>.64</td>
</tr>
<tr>
<td>Cognitive</td>
<td>2.25</td>
<td>3.38</td>
<td>7</td>
<td>2.95</td>
<td>.46</td>
</tr>
</tbody>
</table>

Table 14

*Participant Pre-Post Mean Scores on SLWAI*
Qualitative Findings

The qualitative data analysis offered insights into the nature of participants’ experiences with writing anxiety prior to the intervention, during the intervention, and after the intervention. According to the conceptual framework in Chapter 1, prior language learning experiences interact with personal characteristics, such as writing anxiety, through the proximal processes that occur in the language learning classroom (Bronfenbrenner & Morris, 2006). These interactions then influence writing performance and writing achievement. In particular, researchers have noted that peer review can help learners overcome negative prior language learning experiences, which can improve writing self-efficacy, decrease anxiety, and improve writing performance (Choi, 2013; Jahin, 2012). The qualitative data results indicated that a
similar developmental process occurred with the study participants. Table 15 below provides an overview of themes from the qualitative data analysis that are relevant to answering research question six.

Table 15

<table>
<thead>
<tr>
<th>Holistic Codes</th>
<th>Codes</th>
<th>Themes</th>
<th>Related Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time pressure</td>
<td>Timed writing “feel pressure” “feel stressed”</td>
<td>Stressful Experiences</td>
<td>“I think every time when you have, when there's limitation, time limitation, I always feel anxiety” (Participant 02).</td>
</tr>
<tr>
<td>Evaluation</td>
<td>“college entrance exam” IELTS Test x3 Low grade “take the exam”</td>
<td></td>
<td>“So, whenever we were asked, or I was asked to write something within a short time, yeah, it will be challenging” (Participant 03)</td>
</tr>
<tr>
<td>+/- Emotions</td>
<td>“doesn’t increase confidence” “very depressed” “feel discouraged” “less confident” “a lot of mistakes” “very afraid” Anxious Embarrassed “judge me” “feel shame”</td>
<td>Feelings about writing</td>
<td>“Um, well, because I made any mistakes. So, it sometimes made me feel shame about sharing my mistakes with my classmates” (Participant 02).</td>
</tr>
<tr>
<td>-/+ Anxiety</td>
<td>“won’t feel nervous” “in the same boat” “Feel a little bad” “anxiety is decreased” x 2 “a little bit anxious” x 2</td>
<td>Emotional Development</td>
<td>“I would say that this anxiety is decreased. And like, just as I said before, for the first time I did this assignment [peer review]. I took more time, and I was less confident to finish it. But the last time for the last time I did this, I think I can...”</td>
</tr>
</tbody>
</table>


Prior Experience with writing in English. Before examining how participants’ writing anxiety changed during the intervention, it is helpful to first establish their experiences with language anxiety prior to the start of the intervention. The qualitative data revealed that learners’ prior English learning experiences likely influenced their experiences with writing anxiety. As illustrated in the Chapter 1 conceptual framework (Figure 1), English learners often have negative prior language learning experiences that can heighten their anxiety for writing (Dornyei, 1990; Lee, 2013; Spack, 1997; Teimouri, 2018). The analysis of the pre-intervention semi-structured interviews provided extensive evidence that negative prior language learning experiences contributed to writing anxiety among participants at the start of the intervention.

Participants often discussed stressful experiences that occurred during their previous English courses. Thus, the theme stressful experiences was applied to situations when participants mentioned prior English learning events that induced stress and anxiety. All participants discussed anxiety related to preparing for English tests, and two participants described times when they felt embarrassed about their writing during class. For instance, in the interview excerpt below, Participant 02 describes how preparing for the IELTS test increased her writing anxiety:
When I first started out, my writing is very poor, and the IELTS test has some, it has some specific writing skills, like, describing statistics, but I don't know how to do it. So, yeah, it will make me, it made me feel anxiety and less confident about my writing skills. I was very afraid to cannot pass IELTS test. (Participant 02, 2020)

This excerpt provides an example of one way that English learners’ prior language learning experiences can influence personal characteristics, such as writing anxiety and self-efficacy for writing.

Another interview theme was the theme of learning to write, which concerned ways that prior experiences with writing instruction influenced participants’ feelings about writing in English. As pointed out in Chapter One, prior studies have shown that writing anxiety is often related to prior instruction that overly focuses on memorizing grammar rules and avoiding grammatical errors (Spack, 1997; Lee, 2013). This desire to avoid making mistakes can result in anxiety about error avoidance (Lou & Noels, 2017; Woodrow, 2006).

Participants in the pre-intervention interview spoke about prior instruction in their home countries that focused on grammar instruction and mistake avoidance. Related to the theme of learning to write, the researcher used the descriptive code grammar focus five times and the in vivo code “focus more on grammar” twice to note references to prior instruction that focused excessively on grammar. For instance, Participant 02 explained, “I don't think it's my, my own problem, but maybe for all Chinese students, actually, we haven't learned the academic English writing in a logical way. In our class, for most of time, we're focused on some grammars and our textbook” (Participant 02, 2020). Thus, participants’ prior experiences with writing instruction may have heightened their writing anxiety going into the intervention study.
Writing Anxiety Improvement. The qualitative data analysis provided evidence that the peer review intervention may have contributed to decreases in participants’ writing anxiety. As prior mixed methods research has shown, peer review writing interventions can help decrease participants’ feelings of anxiety about writing in English (Jahin, 2012; Kurt & Atay, 2007). The theme of emotional development involved interview references to improvement in participants’ emotions following the intervention. In particular, participants spoke about ways that collaborating with peers during the peer review activities helped them feel less anxious about taking risks with new writing strategies, sharing texts, revising texts, and composing texts in English. For example, the researcher used the in vivo codes “anxiety is decreased” (x2) and “won’t feel nervous” to indicate times when participants described the intervention as helping decrease their writing anxiety. Two participants mentioned that the decreased power distance between peers helped them feel less anxious about their writing. The interview excerpt below exemplifies this finding:

Researcher: Yeah, so tell me a little more about that. Why would you feel maybe less nervous with a peer?

Participant 03: Cuz it’s like you and your peers are in the same boat. We have the same goal, and we work together to finish the essay writing or a project.

(Participant 03, 2020).

Similarly, Participant 02, explained that working with a peer helped decrease her writing anxiety “because…when we face some problems, we can try to attack this problem together” (Participant 02, 2020). This exchange illustrates how peer collaboration may have helped lower writing anxiety by allowing peers to identify as equals and feel comfortable being vulnerable while working to reach common goals. Woodrow (2006b) noted a similar effect in which participants reported feeling less nervous about making mistakes when working with peers as opposed to
teachers. Thus, the qualitative data support the finding that the intervention helped decrease participants’ writing anxiety; however, there are a few additional nuances to consider.

Although participants reported that their experience with writing anxiety seemed to improve, the change mechanism was not always straightforward for all students (Leviton & Lipsey, 2007). First, some participants mentioned feeling nervous working with peers at the beginning of the intervention before growing more comfortable with peer collaboration by the end of the intervention. The following interview excerpt demonstrates the theme of emotional development, including the ways in which participants moved from feeling more to less anxious by the end of the intervention:

Participant 03: Also, at the beginning of the semester…when my essay was evaluated by other classmates, I was a little bit anxious because I'm afraid that they will think I perform not so well in English writing, and I am not, I was not proud of that—of my essay—so that made me nervous as well.

Researcher: Okay, and did that change any way over the course of the semester?

Participant 03: Yeah, I get used to do that. I get used to doing that in the second half of the semester. So, I think part of the reason is that I become more confident about my essay, and, yeah, so my anxiety disappeared.

(Participant 03, 2020)

Similarly, Participant 04 also spoke of feeling anxious about sharing her writing with her partner during the first peer review cycle, but she noted that by the latter half of the intervention her writing confidence improved and her anxiety decreased.

Another complication involved instances in which participants disagreed about how to correct their texts. The interview theme of Negotiating Understanding included participant
references to disagreements about the appropriate ways to revise texts. Occasionally, these disagreements resulted in negative emotions for participants. For instance, in the interview excerpt below, Participant 04 described feeling anxious when a peer used an external source to confirm errors in her text:

I think one thing come to my mind is when we have different opinions about a point, like when I think I'm right, but she doesn't think, she thinks I'm wrong, and she, and then she present some evidence from some authorities, yeah, to me, and then I realized, oh, I'm wrong, and I don't have evidence for my argument. So that make me get nervous, and upset, and anxious. (Participant 04, 2020)

Furthermore, Participant 03 mentioned some disagreements with partners about text corrections, which led her to independently check online resources and decide on her own whether revisions were needed. Other participants collaboratively checked online resources to determine how to correct text issues, which related to the theme of negotiating understanding. These findings suggest that working with peers helped lower anxiety in general, but the findings also suggest that participants needed to exercise their individual agency, social skills, and critical thinking to resolve differences with peers.

**Mixed Methods Findings**

The mixed methods findings offer additional breadth and depth to the previously discussed findings for RQ6 (Lochmiller & Lester, 2017). The results from the quantitative data analysis show that participants reported a decrease in their writing anxiety following the peer review intervention. Moreover, the qualitative results also support a finding that participants felt that, overall, the intervention helped improve their symptoms of writing anxiety. Creswell and Plano Clark (2018) noted that convergent mixed-methods findings, such as these findings, can
help triangulate data and validate a study. As a result, the convergent quantitative and qualitative results help validate the finding that the intervention contributed to decreases in participants’ writing anxiety.

A comparison of the quantitative and qualitative data also shed light on the nature of the change in writing anxiety for participants. Results from the SLWAI survey indicated that participants seemed to struggle most with cognitive writing anxiety, or fear of being negatively evaluated. Participants had a pre-intervention mean score of 3.45 \( (N=8, \ SD=.63) \) on the cognitive subscale of the SLWAI, and this score decreased to 2.95 \( (N=7, \ SD=.46) \) after the intervention. In a similar fashion, all participants referenced evaluation-related fears in the pre-intervention interviews. Most of these references related either to test anxiety or anxiety about being publicly corrected and embarrassed about their writing mistakes. In the post-intervention interviews participants’ spoke about feeling less anxious about making mistakes and more willing to take risks with new writing strategies when working with peers during the peer review activities. For instance, Participant 03 explained that she felt less anxious while collaborating with peers “…because the person you were with during classes, you're in the same position, so you won't feel that nervous when you work with them” (Participant 03, 2020). Thus, the mixed methods findings indicate that peer review decreased fear of negative evaluation, which supported a decrease in writing anxiety.

**Self-efficacy for Writing (RQ7)**

Self-efficacy for writing was the focus of research question seven. This research question reads as follows: “To what extent did students’ experience of self-efficacy for writing change after participating in the peer review writing intervention, and what was the nature of the
change?” The following sections will present the findings from the quantitative and qualitative data analysis related to RQ7.

**Quantitative Findings**

The quantitative findings provided evidence for an increase in self-efficacy for writing among the study participants. Research indicates that self-efficacy functions in conjunction with anxiety to influence writing performance: As confidence in one’s writing abilities increases, anxiety about writing gradually decreases (Pajares & Johnson, 1994, 1996; Woodrow, 2011; Zabihi, 2018). Indeed, results from the Self-efficacy for Writing Scale (SEWS) survey indicate that this relationship may have operated in the intervention study. The study included a pre-intervention and post-intervention administration of Bruning et al.’s (2013) SEWS survey.

Analysis of the pre- and post-intervention SEWS survey results showed that participants experienced an increase in reported mean scores for self-efficacy for writing. Specifically, as seen in Table 16 below, participants reported a pre-intervention mean score of 3.45 ($N=7$, $SD=.73$) on the survey, and they reported a mean score of 3.87 ($N=7$, $SD=.40$) on the post-intervention survey. Figure 5 below provides an illustration of the increase in self-efficacy for writing mean scores. These quantitative results point to a potential increase in self-efficacy for writing following the intervention. As a result, the quantitative data provide evidence that the peer review intervention may have played a role in improving participants’ self-efficacy for academic writing.
Table 16

Participant Pre-Post Mean Scores on SEWS

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-test</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composite</td>
<td>2.31</td>
<td>4.44</td>
<td>7</td>
<td>3.45</td>
<td>.73</td>
</tr>
<tr>
<td><strong>Post-test</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composite</td>
<td>3.25</td>
<td>4.44</td>
<td>7</td>
<td>3.87</td>
<td>.40</td>
</tr>
</tbody>
</table>

Figure 5

Comparison of Pre-post Self-efficacy for Writing Survey Results

Qualitative Findings

The qualitative data analysis provided additional insights into the nature of participants’ experiences with self-efficacy during the intervention. Previous studies have found that self-
efficacy is an important mediating variable that can influence both writing anxiety and writing performance (Pajares, 2003; Pajares & Johnson, 1994, 1996). The qualitative data results indicated that peer review may contribute to increases in participants’ self-efficacy for writing. In general, participants reported that their experiences during the intervention helped improve their self-efficacy for writing in English. This section introduces the social and cognitive factors that contributed to the observed effects. Table 17 below provides an overview of the qualitative themes related to research question seven.

Table 17

Themes Related to Research Question Seven

<table>
<thead>
<tr>
<th>Holistic Codes</th>
<th>Codes</th>
<th>Themes</th>
<th>Related Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>+/-Practice</td>
<td>Knowledge gap</td>
<td>Learning to Write</td>
<td>“I didn't do a lot of academic writing in my bachelor’s degree.” (Participant 04)</td>
</tr>
<tr>
<td></td>
<td>“focus more on grammar” x2</td>
<td></td>
<td>“Well, in my high school, I think in Taiwan, the English course, focused more on the listening and reading and also to memorize vocabularies.” (Participant 03)</td>
</tr>
<tr>
<td></td>
<td>Not much writing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“didn’t focus on writing”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Finding ideas</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+/-Emotions</td>
<td>“doesn’t increase confidence”</td>
<td>Feelings about Writing</td>
<td>“…when my essay is compared with others, I will be very depressed because I feel, Oh, my essay is worse than others then I will feel discouraged by the class.” (Participant 04)</td>
</tr>
<tr>
<td></td>
<td>“not very confident”</td>
<td></td>
<td>“Well, can I say that I'm not very confident about my writing?” (Participant 02)</td>
</tr>
<tr>
<td></td>
<td>“very depressed”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“feel discouraged”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“less confident”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“a lot of mistakes”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+/- Confidence</td>
<td>“increase your confidence”</td>
<td>Emotional Development</td>
<td>“Oh, for some classmates, they gave you a much more positive feedback. Well, that would definitely, like, increase your confidence.” (Participant 03).</td>
</tr>
</tbody>
</table>
During the pre-intervention interviews participants reported challenges with their self-efficacy for writing in English. The theme of feelings about writing emerged as a pre-intervention theme that involved references to negative feelings about writing in English. Each of the three interviewees shared examples of prior language learning experiences that produced feelings of low self-efficacy about writing in English. In particular, two participants explained that making grammar mistakes and having those mistakes pointed out publicly provoked low confidence about their writing. Participants also spoke about their lack of opportunities to practice writing meaningfully. The holistic code -practice was used to indicate when participants...
mentioned that prior English classes did not prioritize writing practice. As Participant 03 explained, “In my high school…the English course focused more on the listening and reading and also to memorize vocabularies. This is because we, we do this because we need to pass the college entrance exam” (Participant 03, 2020). Thus, it seems that awareness of grammar errors and insufficient practice contributed to feelings of low self-efficacy for some participants prior to the start of the intervention.

The post-intervention interview responses provided further evidence that the peer review intervention may have facilitated improvement in participants’ self-efficacy for writing. The post-intervention interview theme of emotional development emerged as a theme that described the evolution of participants’ sense of self-efficacy for writing over the course of the intervention. All three interviewees described some improvement in their self-efficacy for writing as a result of participating in the intervention. For example, Participant 04 explained that her self-efficacy gradually improved over the course of the intervention. She claimed that “I become more confident about my essay, and yeah, so my anxiety disappeared” (Participant 04, 2020). This statement illustrates the inverse relationship between writing anxiety and self-efficacy for writing that researchers have theorized (Pajares, 2003; Pajares & Johnson, 1994, 1996).

Participants tended to attribute improvement in their self-efficacy to their ability to collaboratively improve texts with their peers. The theme of negotiating understanding provided insights into the ways in which peers collaborated to improve their texts and increase their self-efficacy. Related to the theme of negotiating understanding, interviewees most frequently mentioned giving and receiving feedback from peers as well as practicing writing strategies from the course. Participants seemed to especially benefit from receiving positive feedback from peers.
and realizing that they were not alone in their struggles with writing in English. For example, Participant 04 explained this development in the following manner:

Yeah, I think it [peer review] improved my confidence a lot because, first of all, when I look at others’ essays, I can identify a lot of mistakes that they made in the essay. So, I will think that, oh, it's not just me who can, who will, make these mistakes others did just like me, so it improve my confidence a little bit. (Participant 04, 2020)

Similarly, other participants mentioned that the peer review activities helped them feel that they had peer support for solving text challenges. For instance, Participant 03 mentioned being “in the same boat” as other students while Participant 02 explained that “when we face some problems, we can try to attack this problem together.” As a result, it seems that peer review helped develop participants’ self-efficacy for writing by making them feel supported while addressing text issues. Participants also seemed to feel that peer collaboration provided them with the cognitive and linguistic resources needed to solve textual problems.

**Mixed Methods Findings**

The quantitative survey results and the qualitative interview data support a convergent finding that participants perceived the intervention as supporting improvement in their self-efficacy for writing (Creswell & Plano Clark, 2018). The SEWS results indicated that participants experienced an increase in their self-efficacy for writing following the intervention. Moreover, the pre- and post-intervention interview data indicated that participants attributed at least some of this improvement to the peer review writing intervention. According to Bandura (1986), self-efficacy refers to a learners’ belief that they are capable of successfully completing a task to achieve specified learning goals.
Post-intervention interviews revealed that peer collaboration was an important aspect of increasing participants’ beliefs that they could successfully compose and improve their English texts. For instance, the qualitative theme of *negotiating understanding* involved participants’ collaborating to identify mistakes and understand how to repair their mistakes. For example, the process code *finding mistakes* was used six times to note references to participants collaborating to identify mistakes in texts. Participant 02, who claimed to have low writing confidence during the pre-interview, explained that collaborating with a peer made her feel more confident that she had identified and improved her grammar mistakes prior to submitting her final text draft. This participant also mentioned that she was able to identify more errors in peer texts later in the course than she could earlier in the course, and this ability improved her writing confidence. In summary, the intervention seems to have helped improve participants’ beliefs that they could identify and repair textual problems in order to successfully achieve the goals of the academic writing course.

**Writing Performance (RQ8)**

The final research question concerns whether the intervention was effective for improving participants’ writing performance in English. Research question eight reads as follows: “To what extent did the intervention contribute to improvement in students’ writing performance, and to what extent did students perceive this change as related to the intervention?” The following sections will provide evidence in response to research question eight.

**Quantitative Findings**

The quantitative analysis of the writing performance tests provided evidence that participants’ academic writing skills improved following the intervention. Prior research on
academic writing has shown that as self-efficacy for writing increases and anxiety decreases, students’ knowledge of academic writing and their writing performance should also increase (Pajares, 2003; Pajares & Johnson, 1994, 1996). The previous sections provided evidence that participants’ self-efficacy for writing increased and their writing anxiety decreased. This section provides evidence that these affective improvements also likely contributed to improvements in participants’ writing performance.

Analysis of the pre-intervention and post-intervention scores on the writing performance test indicated that participants’ writing performance improved following the intervention. As illustrated in Figure 6 below, the mean scores on the writing test increased from pre-treatment to post-treatment. The mean scores represent the mean rating from the two raters who rated both the pre-tests and the post-tests. Participants’ pre-intervention mean score on the test was 14.31 ($N=8$, $SD=2.03$) while the post-intervention mean score was 19.44 ($N=8$, $SD=1.61$). Also noteworthy was the improvement in the range of scores following the intervention as indicated in Table 18 below. Prior to the intervention the range of student scores was 11-17, but following the intervention the range of scores had improved to 18-23. As a result, both the lowest participant score and the highest participant score increased following the intervention. In addition, as illustrated in Figure 7 below, all participants experienced some improvement in their writing scores following the intervention.
Figure 6

*Comparison of Individual Student Writing Test Means*

![Comparison of Individual Student Writing Test Means](image)

Table 18

*Statistics for Writing Performance Test Results*

<table>
<thead>
<tr>
<th></th>
<th>N=</th>
<th>Minimum</th>
<th>Maximum</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-intervention test of writing performance</td>
<td>8</td>
<td>11</td>
<td>17</td>
<td>14.31</td>
<td>2.03</td>
</tr>
<tr>
<td>Post-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-intervention test of writing performance</td>
<td>8</td>
<td>18</td>
<td>23</td>
<td>19.44*</td>
<td>1.61</td>
</tr>
</tbody>
</table>

*Note.* Data in this table are drawn from averages of each research assistants’ ratings of the pre-test and post-test of writing performance. Range of possible scores was 9-27. *p<.05
The results from the inferential statistical analysis also support the finding that participants’ writing performance improved following the intervention. Since the test results data involved a small sample size ($N=8$) with a non-normal distribution, a non-parametric comparison of means test was merited (Wagner, 2017). The Wilcoxon Signed Rank test is the appropriate comparison of means test for non-parametric matched samples (Laerd Statistics, n.d.). The researcher tested the assumptions for the Wilcoxon Signed Rank test and determined that the writing performance test results met the assumptions for the comparison of means test. The Wilcoxon Signed Rank test conducted in SPSS indicated that there was a significant increase in writing performance test scores for the students who participated in the peer review writing intervention ($z=-2.52; p=.012$). The results of the inferential statistical analysis supported the finding that the peer review intervention contributed to improvement in participants’ writing.
performance. The following sections will delve deeper into the nature of this change in writing performance.

**Qualitative findings**

The qualitative data analysis provided additional evidence that the peer review intervention supported improvement in participants’ writing performance. In general, the qualitative interview data suggested that peer interactions facilitated cognitive development within participants’ zone of proximal development (Vygotsky, 1978). Participants leveraged the collective linguistic resources of the peer dyad to review and improve texts, which contributed to improvement in their own independent writing capabilities. Two themes from the qualitative data emerged to support these findings. These were the themes of *negotiating understanding* and *linguistic development*. Table 19 below provides participant quotations for these two themes as related to research question eight.
The qualitative interview data showed that Peer interactions were important for supporting improvement to participants’ writing performance. As mentioned previously, the theme of *negotiating understanding* involved times when participants collaborated with peers to identify and repair writing problems through revision. For instance, Participant 03 described how her peers helped focus her attention to errors and address those errors. Participant 03 explained...
that “when I did it [text editing] by myself, I can't find some mistakes, but when I get feedback from peer review, I can easily identify what's wrong with me, what mistakes I made” (Participant 02, 2020). This participant went on to explain that she was able to improve her text using the feedback from her peer.

Evidence from course artifacts and peer discussion videos illustrated how participants were able to use peer and teacher feedback to make independent improvements to their texts. For example, during the second peer review discussion, Participant 06 and 07 collaborated to repair a grammar error that occurred in Participant 07’s text. In the first draft of the first text, Participant 07 wrote the following sentence: “It is only when innovation is for the greater good, the true potential of innovation is realized” (Participant 07, 2020). During the first peer review discussion, Participant 06 pointed out the cause of the error in the sentence and suggested using the subjunctive case to correct the error. Participant 06 explained to Participant 07 as follows:

I think you are trying to use a pattern when...that [explains in Chinese]. It is only when

blah, blah, blah that the true potential of innovation is realized. So, I think you missed a word here [indicates with the computer mouse where the missing word should go].

( Participant 06, 2020)

This excerpt from the peer interaction shows how Participant 06 was able to use her more advanced knowledge of English grammar to point out a problem with the attempted use of the subjunctive and to suggest a way of repairing the error. In the second draft of the first text, Participant 07 chose to improve the grammatical error in a slightly different way than Participant 06 had suggested. Instead of using the subjunctive, Participant 07 made the following adjustment: “Only when innovation is for the greater good, is the true potential of innovation realized.” (Participant 07, 2020). This excerpt from the second draft illustrated how participants
were able to leverage peer support to identify text problems and then independently determine how to fix those problems.

Another way that participants negotiated understanding to improve their writing was by developing their understanding of the reader’s perspective. Participants referred to situations that made them aware of how the reader would perceive their writing, and participants discussed the reader’s perspective during peer review discussions. For example, the in vivo code “not that clear” was used to note instances when participants described a text as being unclear for an imagined reader. In the post-intervention interview, Participant 03 explained that peer interactions helped her to “notice whether my strategy was clear enough, [whether] the strategy I used in my paragraph is visible enough for readers” (Participant 03, 2020).

An interaction between Participant 04 and 03 during the second peer review discussion illustrated this concept. In the peer discussion, Participant 04 pointed out that Participant 02’s use of the demonstrative adjective *this* in her text could be confusing to the reader since it was unclear what the referent was for the word *this*. Below is the excerpt of the problematic text:

> Meanwhile, the author also says that innovation develops with human history development, and he divides it into five stages: closed innovation, collaborative innovation, open and free innovation, co-innovation, and meta-innovation. However, from the perspective of large “I”, while cutting-edge technology influencing people’s daily life profoundly, it is essential for governments, institutions, businesses, and individuals unite together to tackle some critical issues by using *this* type of innovation (emphasis added). (Participant 02, 2020)

During the second peer discussion, Participant 04 explained in the following manner how a reader might perceive the use of the word *this* in the text:
Here you use the demonstrative expression [demonstrative adjective] this type of innovation. I think this kind of expression can strengthen your cohesion in this paragraph, but if you just mention this type of innovation the readers may be very confused about what type of innovation because you didn’t mention in your previous sentence the type of innovation, so maybe they don’t know what type of innovation you refer to. So, you can make it very explicit or concrete by using technological innovations/advanced technologies. I think this is what you mean, right? By using this you can make your text understood by readers. (Participant 04, 2020)

In the comments above, Participant 04 not only drew attention to a grammatical issue, but she also mentioned the reader’s perspective to explain why the grammar needed to be changed. As can be seen in the text excerpt below, Participant 02 revised the text to address the vague referent and other issues:

Meanwhile, the author also says that innovation has developed with human history, and it incorporates five stages: closed innovation, collaborative innovation, open and free innovation, co-innovation, and meta-innovation. On the other hand, from the perspective of large “I”, while cutting-edge technology influences people’s daily lives profoundly, governments, institutions, businesses, and individuals should unite together to tackle some critical issues by using advanced technologies (emphasis added). (Participant 02, 2020)

In the excerpt above, Participant 02 has resolved the unclear referent issue by replacing the demonstrative adjective + noun combination with a more specific plural noun (advanced technologies). As a result, this provides another example of improving writing through
negotiating understanding and revising texts; Participant 02 responded to her peer’s suggestions, but she improved the text differently than her peer had suggested.

The final theme related to writing performance was the theme of *linguistic development*. This theme covered instances when participants described how the intervention directly influenced their writing development. All three interviewees explicitly mentioned aspects of the intervention that improved their writing performance. For instance, the descriptive code *improving* was used three times to indicate instances when participants attributed improvement in their writing to aspects of the intervention.

Participants’ *linguistic development* was, in part, facilitated through reading and learning from peer texts. The three interviewees all mentioned that they benefited from reading peer texts. This helped them develop new linguistic tools, such as vocabulary, grammar, and rhetorical strategies. For example, Participant 03 explained this concept in the following manner: “Yeah, I think I definitely improved a little bit of the, my writing by just reading other people's essays. If the person produced a really good writing, that's the model that I can learn [from]” (Participant 03, 2020). Similarly, Participant 02 emphasized, “I was enjoyed reading my peers’ essay, and it's also a learning opportunity, I think, because we all write different things” (Participant 02, 2020).

According to Participant 04, reading peer essays helped improve her writing in the following ways: It taught her new content knowledge and new academic expressions, and it gave her examples of how to implement writing strategies from the course.

Lastly, participants explained how the revision process was an important component of improving their academic writing. The revision process enabled participants to consider written and oral feedback from peers and their teacher. Participants then had to independently decide how they wanted to respond to this feedback. Participant 04 explained that “when I fix my own
essay, aside from [the teacher’s] suggestions, I will also do some reflections during the
discussion with my peers, so this improves my writing again” (Participant 04, 2020).
Interestingly, participants did not simply adopt all of their peer’s suggestions for revisions.
Participants reviewed the oral and written feedback, consulted reference sources, and decided on
their own whether to follow their peer’s suggestions or use a different approach.

Mixed Methods Findings

The results of the mixed methods data analysis indicated that the peer review intervention
supported improvement in participants’ academic writing performance. First, the quantitative
data analysis showed that participants performed significantly better on a test of writing
performance after the intervention. Second, the qualitative data, including interviews and course
artifacts, provided insights into the aspects of the intervention that participants perceived as
promoting improvement in their writing performance. The qualitative data provided a deeper
understanding of the pathways through which participants achieved the writing improvement
observed in the quantitative data. For instance, the qualitative data revealed how participants
collaborated with peers and leveraged textual resources to improve their academic writing skills.

The use of more expert peers to support learning is an example of participants working
within their zone of proximal development to perform writing tasks that were beyond their
independent capabilities (Gee, 2008; Swain, 2006; Vygotsky, 1978). More specifically, it
appears that participants alternated serving as experts while providing text feedback, and
participants used each other’s texts as linguistic affordances to scaffold improvement in their
own writing skills (Gee, 2008). In other words, participants improved their writing by responding
to peer feedback and collaborating with peers to implement the linguistic principles presented in
course texts and example peer texts. In addition, participants also likely improved their writing as
a result of revising their texts and encountering linguistic concepts repeatedly over the course of the intervention. These repeated exposures and opportunities for revision may have supported deeper learning and more durable improvement to writing skills.

**Discussion of Findings**

**Discussion of Intervention Implementation Fidelity (RQ 1)**

Fidelity of implementation is an important process evaluation measurement for assessing whether the program followed the intended theory and design (Rossi et al., 2019). Measuring implementation fidelity also helps to account for any potential exogenous factors that might also have contributed to the treatment effect (Leviton & Lipsey, 2007). Rossi et al. (2019) explained that implementation fidelity also helps establish whether the intervention was “sufficient to plausibly produce the program effects” (p. 98). The program theory for this intervention posited that peer interactions during multiple cycles of peer review activities would lead to improvement in participants’ emotions and writing performance.

The intervention included a moderate level of implementation fidelity. The fidelity of implementation was somewhat reduced due to the delayed intervention start. This led to scaling down the intervention from four peer review cycles to three. This reduction did not necessarily decrease the effectiveness of the intervention. Adaptation to local conditions is a common feature of interventions. According to Dusenbury et al. (2003), it is often necessary to adapt interventions to fit the constraints of the local context, and some flexibility is needed to meet the needs of the local context. Such changes do not necessarily compromise the effectiveness of the program. For instance, other peer review intervention studies have observed positive effects on emotions and writing performance despite only implementing three or fewer peer review cycles.
(Choi, 2014; Jahin 2012). Thus, evidence from prior studies supports that the fidelity of implementation was likely sufficient to support the hypothesized mechanism of change.

As implemented, the intervention appeared to be sufficient to support the developmental processes described in the theoretical framework. First, the intervention included a reasonable amount of time to support participants’ cognitive development. Bronfenbrenner and Morris (2006) claimed that learners require repeated exposure to concepts over an extended period of time to support development. The intervention transpired over approximately nine weeks, and interviewed participants noted having the opportunity to observe and try out different writing strategies over the course of the intervention. Second, the intervention implementation provided sufficient opportunities for participants to engage in proximal processes (i.e., interactions) in a variety of contexts, or ecological systems. For example, the intervention included solo and collaborative work that occurred in multiple synchronous and asynchronous contexts. Participants had numerous opportunities to engage with course content in a variety of settings. Thus, the relatively high level of implementation fidelity likely supported development of participants’ emotional regulation and their writing performance.

Discussion of Participant Completion of Peer Review Activities (RQ2)

The second research question addressed participant reception of the implemented intervention activities. As such, this research question concerned the extent to which participants engaged with and utilized the services provided in the intervention (Rossi et al., 2019). Rossi et al. (2019) claimed that assessing the level of service utilization is a critical aspect of process evaluations. All eight of the study participants engaged in a high number of the implemented intervention activities. Of the 14 implemented peer review activities, participants completed all
of the activities except for one practice activity that one participant was absent from. Thus, study participants appear to have engaged in a high level of service utilization (Rossi et al., 2019).

Participant motivation is an important factor for ensuring a high engagement with intervention activities (Rossi et al., 2019). Intrinsic and extrinsic motivation likely contributed to participants’ high levels of completion of the intervention activities. Several factors probably influenced participants’ intrinsic and extrinsic motivation. First, although participation in the study was voluntary, completion of most peer review activities was a required part of the EAPP course. Consequently, participants’ desire to achieve the course objectives likely served as extrinsic motivation to complete the intervention activities. Similarly, other successful peer review intervention studies that reported high levels of student engagement also incorporated peer review activities into the regular course activities (Cho & Cho, 2011; Jahin, 2012; Kurt & Atay, 2007). Second, participants likely had a high intrinsic motivation to engage with the peer review activities. Prior studies have shown that international ELLs are keenly aware of the importance of academic English for their success in university and the international workforce (Hazen & Alberts, 2006; Urban & Palmer, 2016; Zhou, 2015). Hence, the study participants likely were eager to engage in the peer review activities with the expectation that their efforts would produce longer term improvements to their writing. According to Bronfenbrenner and Morris (2006), personal characteristics, such as motivation, interact with proximal processes to influence development. Thus, personal characteristics appear to have contributed to participants’ engagement with the study and the positive outcomes observed in the study.

**Discussion of Quality of Intervention Delivery (RQ3)**

Quality of delivery was a process evaluation variable that focused on whether the teacher implemented the intervention in a quality manner. The intervention possessed a high quality of
delivery. This determination was based on high reviewer ratings of the two practice peer review sessions. As a result of the high quality of intervention delivery, participants likely learned the following skills: editing texts, commenting on texts, using rubrics, discussing texts, and revising texts. Earlier studies indicated that two practice sessions were sufficient to introduce these skills, and this study confirmed this finding (Jahin, 2012; Kurt & Atay, 2007). Skills development is necessary to support the key activities of an intervention. For instance, Dusenbury et al. (2003) pointed out that quality of delivery is needed to ensure that participants can effectively complete the intervention tasks. Thus, the high quality of intervention delivery ensured that participants acquired the necessary skills to complete the intervention as intended (Dusenbury et al., 2003).

The high-quality instruction in the practice peer review sessions scaffolded key skills needed for supporting effective participant interactions. As Dusenbury et al. (2003) argued, quality of delivery is vital for ensuring that participants interact and “focus attention on the desired elements” of the intervention (p. 244). The practice sessions helped focus participants’ attention on strategies for providing oral and written corrective feedback for texts. Second language acquisition studies have shown that attention and feedback are vital aspects of language development. For instance, Schmidt and Frota (1986) found that learners are more likely to accurately acquire language forms when their attention is drawn to those forms in the speech of native speakers. Moreover, Long (1996) found that negative feedback, or corrective feedback, from more expert speakers was a necessary component of developing one’s language competence. The peer review practice sessions helped scaffold the essential skills of attending to and negotiating the repair of textual issues. These skills comprised the primary proximal processes that were necessary for promoting cognitive and affective development for participants (Bronfenbrenner & Morris, 2006).
Discussion of Participant Responsiveness (RQ4)

Participants responded at a high level to the key components of the intervention. Participants provided each other with large amounts of high-quality feedback on texts, and participants incorporated this feedback in their text revisions. This high participant responsiveness likely contributed to the positive gains observed for improvements to participants’ emotional development and writing performance. According to Dusenbury et al. (2003), high participant responsiveness can help ensure that the theorized change mechanism operates as planned and leads to the desired outcomes. As a result, the high participant responsiveness in the study ensured that participants engaged in the behaviors necessary for promoting focal intervention outcomes.

The high level of participant responsiveness also was associated with certain unintended consequences. Unintended consequences refer to consequences of an intervention that were not anticipated as part of the program’s design (Bamberger et al., 2016). Bamberger et al. (2016) explained that considering unintended consequences can improve the “efficiency and effectiveness” of the intervention and allow lessons to be learned from the intervention (p. 156). A noteworthy unintended consequence of the peer review intervention included the occasional over-responsiveness of participants. As noted in the findings, some participants provided excessive feedback on their peer’s texts. Excessive feedback can harm students’ confidence about their writing, and it can limit students’ ability to focus on the most important errors in their writing. Therefore, students likely need additional guidance on how to limit their feedback to the most consequential issues in their texts.

The over-responsiveness of some participants indicates that not all participants clearly understood the purpose of their roles during peer review. Bronfenbrenner and Morris (2006)
noted that participant beliefs can influence the proximal processes that occur in different learning contexts. The authors also argued that interactions between the learner and the environment should be reciprocal and mutually adaptive. The excessive feedback that some participants provided shows that not all participants understood that the feedback process was intended to be less unidirectional and involve more negotiation. It is likely that participants, perhaps subconsciously, enacted the behaviors of their own prior teachers, who were excessively focused on eliminating all mistakes. Indeed, pre-intervention interviews with participants revealed that error correction and avoidance of mistakes were common features of English instruction in their home countries. Thus, it is possible that some participants believed that their role during the peer review process was to correct every error in their peer’s work.

**Discussion of Program Differentiation (RQ5)**

Evaluating program differentiation helps determine how participants perceived the various features of the program. Dusenbury et al. (2003) claimed that program differentiation provides clarity about how program components relate to the intervention outcomes. Furthermore, measures of program differentiation can aid in determining which components are essential and which components should be excluded (Dusenbury et al., 2003). Interviews with participants and notes from the researcher’s diary helped identify which aspects of the study were most useful. The study findings suggested that participants found all intervention components to be useful. More specifically, participants explicitly described finding the following intervention components to be useful: working with multiple partners, engaging in peer discussions, receiving teacher feedback, reading peer texts, and revising texts. However, participants seemed to find the rubrics and practice sessions to be less useful that the other
components. As a result, it may be helpful to consider revising these components in future iterations of the intervention conducted with similar populations.

The study findings indicated that participants might benefit from enhancements to make certain program components more focused and challenging. First, the peer review practice sessions could teach participants how to focus more on errors that interfere most with understanding and errors that relate to the focus of the course. This could make the practice session more effective, and it could address one of the unintended consequences of the intervention (Bamberger et al., 2016). Second, the intervention rubrics also could be revised to elicit more focused, productive feedback on a more limited set of textual issues. One method of achieving this result might include using open-ended rubrics that require students to compose a written response to a consistent set of questions as in Lyon’s (1982) Praise, Question, Polish feedback model. Using prose responses for feedback could have several benefits. Requiring written responses would encourage retrieval practice and elaboration of learning, which can strengthen learning (Brown et al., 2014). In addition, prose responses would provide additional writing practice and highlight the dialogic nature of text composition, which was an element of the intervention conceptual framework (Bakhtin, 1981). Thus, the findings of the program differentiation evaluation indicated that a few simple changes to the program components could considerably improve the intervention.

**Discussion of Second Language Writing Anxiety (RQ6)**

The study results indicated that peer review may help decrease writing anxiety, which confirms the findings of other peer review intervention studies (Choi, 2013; Jahin, 2012; Kurt & Atay, 2007). The mixed methods analysis showed that fear of evaluation was a primary driver of writing anxiety in the study sample, and peer collaboration helped reduce participants’ focus on
evaluation. Working with peers seems to have enabled participants to feel more comfortable taking risks, sharing mistakes, and negotiating with peers to resolve textual issues. As participants collaborated to successfully improve their texts, their self-efficacy for writing also improved, which may have mediated the decrease in writing anxiety (Pajares & Johnson, 1994, 1996). In addition, peer review may help students better utilize their cognitive resources. Research has found that anxious learners often dedicate excessive attentional resources to monitoring for threats, which can reduce their ability to attend to other aspects of task performance (Derakshan & Eysenck, 2009; Hardiman, 2012). Peer review may help decrease learners’ threat monitoring and error avoidance. As a result, peer review may help learners spend more time and attention focusing on language concepts as opposed to managing their emotional responses to perceived threats.

The study findings highlight the important role that time and the learning context play in writing development. Bronfenbrenner and Morris (2006) argued that time can provide opportunities for deepening understanding of concepts, and time is also necessary for enabling the interactions that can help moderate the negative impacts of personal characteristics, such as anxiety. In this study, the extended duration of the intervention and repeated peer interactions seem to have contributed to increases in self-efficacy and decreases in anxiety among participants. For instance, as the intervention progressed, participants likely grew more comfortable working with peers and more confident in their writing knowledge, which seems to have helped to decrease their anxiety about writing and peer interactions. In addition, the learning context appears to have influenced their writing anxiety. The peer microsystem was a particularly powerful context for lowering participants’ writing anxiety since it removed the perceived threat of teacher evaluation (Bronfenbrenner & Morris, 2006). Thus, the extended
duration of the intervention combined with the safe space of the peer dyad micro system appears to have been particularly important factors for reducing students’ writing anxiety.

**Discussion of Self-efficacy for Writing (RQ7)**

The results of the study showed that self-efficacy for writing among participants increased following the peer review intervention. Self-efficacy was an important variable because prior studies have shown that self-efficacy for writing has a strong positive correlation with writing performance (Pajares & Johnson, 1994, 1996). In fact, Pajares and Johnson (1996) found that self-efficacy was the best predictor of writing performance among several other personal characteristic variables. The authors also noted that writing anxiety was an after-effect that was mediated by either increased or decreased confidence in writing abilities. This relationship also seemed to occur in this study. Study participants explained that as their knowledge of writing increased their confidence improved and their anxiety abated.

Collaborative problem solving appears to have been a key mechanism through which participants increased their writing knowledge and self-efficacy for writing. Furthermore, improvements to participant self-efficacy may be the most important aspect of the intervention because this improvement supports a host of other beneficial outcomes. Researchers have noted that confidence in one’s ability to write can help increase interest in writing, improve attention, and support perseverance during the writing process (Pajares & Johnson, 1994, 1996). The intervention study showed that peer collaboration gave students the confidence that they would be able to identify and improve any problems with their texts. For instance, participants often mentioned how they collaborated with peers to identify and repair mistakes and apply writing strategies from the course. It seems that working with multiple peers over the course of the intervention may have increased the collective cognitive resources that were available to
participants for resolving text issues and developing writing knowledge. According to Bronfenbrenner and Morris (2006), knowledge and skills are personal resources that can influence the success of proximal processes in various learning contexts. Thus, maximizing the cognitive resources available may have increased students’ confidence about being able to solve textual challenges. This, in turn, may have supported their willingness to persist when encountering difficulties. Therefore, improvement in participants’ self-efficacy likely promoted a cascade of additional positive effects for participants’ academic writing.

**Discussion of Writing Performance (RQ8)**

Improvement in writing performance was an important intermediate outcome for the study. Results from the study suggested that peer review may facilitate improvement in students’ writing performance by supporting emotional development and knowledge of academic writing. The study results confirmed prior study findings which have shown that peer review is an effective and efficient practice for improving ELL students’ writing knowledge and performance (Choi 2013; Jahin, 2012). The results also showed that peer interactions were instrumental for supporting development of students’ writing. These peer interactions allowed participants to give and receive feedback on their texts, which helped them notice errors and see examples of other students implementing writing strategies taught in the course.

The post-intervention interview data and course artifacts showed that students relied on the zone of proximal development and language-mediated learning to improve their writing performance (Vygotsky, 1978). For instance, participants described relying on peers to help identify and repair text issues, and participants discussed learning new linguistic skills from their peers. Sociocultural theory states that individuals learn through interaction with a more expert peer or teacher (Vygotsky, 1978). The results of this study show that individual students may
alternate performing the role of expert and novice depending on the social and linguistic context. For instance, in this study all participants offered valuable feedback on texts regardless of their skill level relative to other students. Moreover, participants rarely provided inaccurate feedback on texts. In other words, no participant always served as an expert or novice. Instead, participants alternated providing feedback during the peer discussions, and all participants provided useful linguistic support regardless of their relative skill level. Other studies also have found that all students can provide valuable feedback regardless of their overall writing proficiency relative to their peers (Cho, 2011; Swain & Lapkin, 1998).

The results of the study also indicated that language was a useful tool for learning. The data from participants’ texts and peer review discussions showed that participants used English (and occasionally their L1s) to negotiate how to improve their texts. Importantly, participants did not passively incorporate peer and teacher feedback. Instead, they actively used language to debate potential revisions and to develop their understanding of linguistic principles. According to sociocultural theory, language is a symbolic tool that mediates thought (Vygotsky, 1978). As Swain and Lapkin (1998) pointed out, “dialogue provides both the occasion for language learning and the evidence for it” (p. 320). In this study, participants engaged in oral and written dialogue that supported writing development and illustrated their efforts to understand complex linguistic concepts. These dialogues included hypothesis testing and application of linguistic rules (Swain & Lapkin, 1998). During these interactions, participants took turns leading discussions and providing feedback. Participants also appeared to exercise agency in proposing ideas for improving texts and deciding how to integrate teacher and peer feedback into their texts. For instance, participants often performed additional research on peer feedback, and participants often modified peer feedback when revising texts. Furthermore, participants
exercised agency and critical thinking by sometimes ignoring or modifying feedback that they did not entirely agree with. The numerous instances of learner agency during the peer review process provides evidence that participants were developing a sense of control over the writing process. As Bandura (1993) noted, learner agency is associated with a sense of control over stressors that can help limit anxiety and improve cognitive performance. Thus, peer interactions may have supported learner agency, which might have helped participants feel more in control of improving their writing.

**Limitations**

This section provides an overview of study limitations, including potential validity threats and the efforts to mitigate these threats. In the intervention study, validity threats included potential threats to statistical validity and internal validity (Shadish et al., 2002). Despite these threats, the study included a rigorous mixed methods design, which mitigated the validity threats and ensured the overall validity and trustworthiness of the findings (Guba, 1981; Lochmiller & Lester, 2017).

The first important limitation to the study was the quasi-experimental design and lack of a comparison group. As a result, it was not possible to make strong causal inferences about the association between the treatment and the observed outcomes (Shadish et al., 2002). In the absence of randomization, it is impossible to entirely rule out that exogenous variables may have contributed to the outcomes (Shadish et al, 2002). Thus, the researcher is limited to making the claim that the peer review intervention was at least one component of the molar cluster of factors that influenced the outcomes (Shadish et al, 2002).

Another limitation included the small sample size of participants in the study. A small sample size can reduce statistical power and lead to Type I and Type II errors (Shadish et al.,
The study included only eight anonymous participants. As a result, it was not possible to conduct more powerful inferential statistical analysis for most of the quantitative data. Due to the small sample size, the researcher used multiple qualitative data sources to improve data triangulation and improve the internal validity. The study sample also may have included some coverage bias since most participants were females from Asian countries (Rossi et al., 2019). That said, the sample was still fairly representative of the study population since most students in the EAPP program are Asian females.

The study also included a few potential threats to internal validity. The first threat to internal validity was maturation, which can occur when natural changes independent of the study contribute to the observed effects (Shadish et al., 2002). It is possible that non-intervention related activities contributed to improvement to participants’ writing and emotions. According to Shadish et al. (2002), one way to mitigate this threat is to ensure that participants begin the study with similar developmental levels. The researcher managed the maturation threat by ensuring that all participants had similar baseline English proficiency levels. Additionally, the researcher encouraged participants to focus their interview responses only on effects related to the intervention. The second internal validity threat was the threat of participant attrition. Fewer participants responded to the post-intervention SLWAI survey than the pre-intervention survey. However, attrition was minimal with only one fewer participant taking the post-intervention survey than those taking the pre-intervention survey.

Lastly, there are some limits to the external validity of the study. Due to the small sample size, it is likely not possible to entirely generalize the findings to a broad population of ELL students. It may be more appropriate to generalize findings to other adult English programs that are “at a similar level” of aggregation as the study sample (Shadish et al, 2002). The study
sample consisted of advanced adult ELL students who were studying academic English as part of
t heir graduate studies. As a result, the study findings would most likely be more appropriate for
consideration among similar adult ELL programs.

**Researcher Positionality and Trustworthiness**

Multiple efforts were taken to increase the trustworthiness of the study and to limit the
possibility of researcher bias. According to Guba (1981) trustworthiness is a quality of
naturalistic research that refers to the extent to which the researcher’s observations and
conclusions accurately reflect the phenomena being studied. Similarly, Creswell and Miller
(2000) explained that validity in qualitative research involves accurately representing the
perspectives of research participants. Given the importance of trustworthiness in naturalistic
research, the researcher incorporated several recommended strategies to ensure the
trustworthiness and validity of the qualitative study components (Creswell & Miller, 2000; Guba,

The researcher employed the following procedures to increase the trustworthiness of the
study. First, the study involved prolonged engagement in the field, which Creswell and Miller
(2000) argued is one appropriate validation strategy for research that prioritizes the perspective
of participants. The researcher spent approximately nine weeks observing participants and
collecting data. This extended period provided ample opportunities for all participating students
to share their perspectives. In addition, the researcher included “thick description” when
reporting the study findings, which permits comparison to other contexts (Guba, 1981, p. 86).
The study also included triangulation of data sources and participants. For instance, multiple
measures of qualitative and quantitative data were used, and multiple participants contributed to
the interviews and course artifacts. Lastly, the researcher member checked interpretations by
confirming with participants that his interpretation was correct following each response to an interview question (Creswell & Miller, 2000; Guba, 1981).

The study also included consideration of researcher positionality, which is necessary for establishing that the study addressed potential researcher biases. According to Banks (2016), the researcher’s culture and perspective can influence their interpretation of results, so Banks calls for “strong objectivity” (p. 145). Strong objectivity involves acknowledging the potential influence of one’s social/cultural position and taking steps to limit any potentially harmful influences. The researcher’s position as an administrator and professor at a U.S. university likely involved some bias in favor of the cultural practices of the U.S. education system, including norms for academic writing. As a result, the researcher made efforts to highlight the cultural relativity of the writing practices taught in the intervention. The researcher also practiced reflexivity during the study by self-monitoring for biased judgements about participants’ cultures. In fact, the researcher regularly drew on and discussed his own experience studying languages abroad in order to diminish cultural barriers and make participants feel safe to express their lived experiences.

Finally, the researcher served as the teacher for the intervention course, which necessitated additional measures to guard against bias and influencing the participants’ responses during data collection. For instance, attempts were made to mitigate social desirability bias by positively reinforcing and openly soliciting critical feedback about the intervention from participants (Lochmiller & Lester, 2017). Furthermore, the researcher sought disconfirming evidence for qualitative data themes prior to finalizing those themes, and the researcher included multiple perspectives in the qualitative interview data (Creswell & Miller, 2000; Miles et al.,
Thus, ongoing efforts to practice reflexivity and to validate participant experiences helped ensure the strong objectivity and validity of the study (Banks, 2016).

**Implications**

**Implications for research**

The results of this study contributed to the growing body of research that has identified peer review as an effective pedagogical intervention for improving adult ELL learning outcomes. Indeed, the study confirmed other studies’ findings that peer review is associated with increases in self-efficacy for writing, decreases in writing anxiety, and improvement to writing performance (Choi 2013; Jahin, 2012, Kurt & Atay, 2007; Yastibas & Yastibas, 2015). The study also supported prior study findings of an inverse relationship between self-efficacy for writing and writing anxiety and a positive relationship between self-efficacy for writing and writing performance (Pajares & Johnson, 1994, 1996; Woodrow, 2011; Zabihi, 2018).

Furthermore, the mixed methods study provided a deeper understanding of factors that students perceive as beneficial for improving their emotional regulation and writing performance.

Future research on peer review would benefit from additional focus on the interactions that support writing development. As the study showed, students’ oral and written dialogue was the most important instrument for cognitive development. This study provided some limited analysis of participants’ oral and written dialogues about texts. These analyses provided some understanding of the strategies that participants used to negotiate improvements to texts. Only a few other studies have examined participant strategy use during peer review, and these studies all used quantitized qualitative data (Cho & Cho, 2011; Choi 2013). Understanding of peer review could be enriched through use of discourse analysis studies, which could provide insights into how participants negotiate the power dynamics at play in peer dialogues. If research can
elucidate the types of language use that are effective during peer review discussions, educators could use these findings to better prepare students to use more effective language and discourse strategies during peer review discussions. In addition, discourse analysis methods could illuminate strategies that facilitate extended conversational turn taking and negotiation of understanding.

**Implications for Instruction**

The results of this study suggest several implications for educational practice. The following is a list of key implications that may be beneficial for educators to consider when implementing peer review instruction:

- Educators can integrate peer review activities within the framework of an existing curriculum. Educators also can increase or decrease the number and timing of peer review cycles to fit the needs of different curricula and programs. These factors make peer review a flexible and efficient intervention that can be adapted for existing program constraints.

- Educators can use peer review to help students practice a wide variety of writing strategies. These writing strategies can range from micro strategies, such as improving punctuation, to macro strategies, such as improving text organization.

- Peer review is an effective instructional strategy for advanced ELL students. These students are capable of independently completing most peer review activities with limited guidance. However, lower-level students may need more support, such as completing the peer review activities during class time with teacher supervision.

- Educators should develop additional guidance for students on how they should focus their feedback and limit excessive and overly critical feedback for peers. This guidance
could take the form of supplemental materials (e.g., handouts) and practice sessions that emphasize the collaborative goals of peer review.

- Educators should develop rubrics/checklists that aid students in providing feedback that is focused on current learning objectives as well as objectives that teachers wish students to continue to focus on. These materials can provide a useful scaffolding to help students internalize the practice of focusing their revision and feedback on targeted aspects of the text (Vygotsky, 1978).

- Educators should consider requiring students to provide open-ended prose feedback on texts and/or written reflections about the process of reviewing their peer’s texts. This approach to feedback can support effortful learning through elaboration of previously learned linguistic concepts, which research shows can foster deeper, longer-lasting learning (Brown et al., 2014).

- Educators should provide students with multiple days to review text feedback and to reflect on that feedback prior to revising texts. This time for reflection and revision should support more durable learning through spaced repetition of concepts (Brown et al., 2014).

- Finally, educators should allow students to work with multiple partners for the peer review activities. This approach will counterbalance any incompatable pairings. In addition, it will expose students to different writing styles and expand the collective linguistic knowledge that is available to students.
Conclusion

This dissertation has addressed the challenge of low academic writing achievement among adult English language learners in U.S. higher education settings. It was necessary to identify effective treatments for this problem because low achievement threatens students’ ability to succeed in U.S. higher education settings and in the global workforce (Chiswick & Miller, 1995, 2010; Hodara, 2015; Roessingh & Douglas, 2012). The author utilized Bronfenbrenner and Morris’s (2006) ecological systems theory as a theoretical framework for understanding the problem of low achievement in academic writing courses. This theory highlights the ways in which personal characteristics and proximal processes interact with the learning environment to influence the trajectory of learning (Bronfenbrenner, 1977; Bronfenbrenner & Morris, 2006). Personal characteristics that were relevant to the problem of low writing achievement included writing anxiety, self-efficacy for writing, and writing knowledge. A review of the literature illuminated the ways in which negative prior language learning experiences could contribute to difficulties with these personal characteristics, thus interfering with further language learning and writing performance (Dornyei, 1990; Lee, 2013; Spack, 1997, Teimouri, 2018). The researcher’s needs assessment identified second language writing anxiety as a critical barrier to improvement for adult ELLs studying at Middlebury Institute of International Studies. Furthermore, peer review was identified as an intervention to improve writing anxiety, self-efficacy, and writing performance of students at MIIS. The mixed methods study findings showed that the peer review intervention was associated with improvements in the target variables of the study: writing anxiety, self-efficacy for writing, and writing performance. Furthermore, improvement in these variables was hypothesized to lead to improvement in graduate course achievement for participants based on the intervention logic model.
The study findings were noteworthy because they highlighted the importance of learner agency in shaping the trajectory of academic writing development. Throughout the study participants demonstrated that they were more than simply passive recipients of teacher and peer feedback. Indeed, participants took active roles in applying course concepts, providing feedback, negotiating feedback, and determining how to revise their texts. This finding supports Bandura’s (1986) contention that learner agency powerfully influences the learning environment and personal characteristics of learners. Likewise, the study results exemplify the complex interactions of personal characteristics and the learning environment posited by Bronfenbrenner and Morris’s (2006) ecological systems theory. For instance, in this study it appears that working with peers helped learners take more risks with their writing, which resulted in richer, more complex texts, or linguistic environments. These enriched learning environments provided enhanced linguistic input, which reinforced learning and promoted negotiated understanding of writing concepts. As learners successfully navigated these textual and interpersonal interactions, their self-efficacy for writing gradually increased and their writing anxiety gradually decreased. The success of these interactions supports the conclusion that adult ELL students are capable of managing complex interactions in English. Furthermore, educators should continue to provide meaningful, authentic learning activities that maximize the opportunity for learners to negotiate course concepts independently and with peers.

Adult English language learners represent an important demographic that comprises a significant proportion of the student body of institutions of higher education in the U.S. In addition, institutions of higher education in the U.S. continue the rely heavily on international students for enrollment goals and campus diversification initiatives. In return, ELLs offer much to campuses across the U.S. These students enrich classrooms and campus social interactions by
serving as unofficial ambassadors for their cultures. Moreover, higher education represents a reliable path for social mobility and personal enrichment for ELLs (Carnevale et al., 2011). Adult ELL students sacrifice greatly to further their educations in the U.S., and they contribute greatly to U.S. educational institutions. As a result, educators in U.S. institutions of higher education have a debt to ELLs that is repayable through a commitment to these students’ success. Simply admitting qualified ELLs to U.S. institutions is insufficient to satisfy the debt that is owed to these students. Instead, campuses require widespread efforts to support students full social and intellectual integration into their higher education communities. One proven way to support this integration is by using peer review writing activities to help learners develop the critical skill of effective academic writing.
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### Appendix A

Individual Differences in Adult Language Learning

<table>
<thead>
<tr>
<th>Factor</th>
<th>Instrument</th>
<th>Related Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Language Anxiety</td>
<td>FLCAS</td>
<td>Horwitz (1986)</td>
</tr>
<tr>
<td></td>
<td>EWAS</td>
<td>Chen &amp; Lin (2009)</td>
</tr>
<tr>
<td></td>
<td>FLRAS</td>
<td>Saito et al. (1999)</td>
</tr>
<tr>
<td></td>
<td>SLSAS</td>
<td>Woodrow (2006a)</td>
</tr>
<tr>
<td>Motivation</td>
<td>PFQ</td>
<td>Phakiti et al. (2013)</td>
</tr>
<tr>
<td></td>
<td>LMI</td>
<td>Lou &amp; Noels (2017)</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>PFQ</td>
<td>Phakiti et al. (2013)</td>
</tr>
<tr>
<td></td>
<td>SEWS</td>
<td>Zabihi (2018)</td>
</tr>
<tr>
<td>Self-regulation</td>
<td>PFQ</td>
<td>Phakiti et al. (2013)</td>
</tr>
<tr>
<td></td>
<td>CMSES</td>
<td>Bandura (1995)</td>
</tr>
<tr>
<td></td>
<td>MSLQ</td>
<td></td>
</tr>
</tbody>
</table>

Note: All authors reported evidence of validity and reliability of instruments
Appendix B

Second Language Anxiety Measurement Instruments

<table>
<thead>
<tr>
<th>Study</th>
<th>Target language</th>
<th>Instrument</th>
<th>Achievement Measure</th>
<th>Correlation with Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salehi &amp; Marefat (2014)</td>
<td>English</td>
<td>FLCAS</td>
<td>Achievement test</td>
<td>$r = -.22; p &lt; .01$</td>
</tr>
<tr>
<td>MacIntyre &amp; Gardner (1994)</td>
<td>French</td>
<td>FACAS</td>
<td>Final course grade</td>
<td>$r = -.52$ to $-.60$; $p &lt; .01$</td>
</tr>
<tr>
<td>Woodrow (2006b)</td>
<td>English</td>
<td>SLSAS</td>
<td>IELTS oral test</td>
<td>$r = -.23; p &lt; .01$</td>
</tr>
<tr>
<td>Horwitz (1986)</td>
<td>Spanish</td>
<td>FLCAS</td>
<td>Course grade</td>
<td>$r = -.49; p &lt; .003$</td>
</tr>
<tr>
<td>Cheng et al. (1999)</td>
<td>English</td>
<td>FLCAS</td>
<td>Speaking course grade</td>
<td>$r = -.28; p &lt; .01$</td>
</tr>
<tr>
<td>Zin &amp; Rafik-Galea (2010)</td>
<td>English</td>
<td>FLRAS</td>
<td>Reading test</td>
<td>$r = -.48; P &lt; .01$</td>
</tr>
<tr>
<td>Chen &amp; Lin (2009)</td>
<td>English</td>
<td>Writing Anxiety scale</td>
<td>Writing proficiency test</td>
<td>$r = -.76; p &lt; .01$</td>
</tr>
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</table>
## Appendix C

### Summary of the Intervention Studies in the Literature Review

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Design</th>
<th>Intervention Method</th>
<th>N</th>
<th>Duration</th>
<th>Student Type</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cho &amp; Lim (2017)</td>
<td>U.S.</td>
<td>Online collaborative</td>
<td>Online collaborative writing (English)</td>
<td>27</td>
<td>5 weeks</td>
<td>Undergraduate</td>
<td>Writing anxiety, Writing self-efficacy, Participation</td>
</tr>
<tr>
<td>Jiang (2016)</td>
<td>China</td>
<td>Experimental</td>
<td>Collaborative writing (Spanish)</td>
<td>120</td>
<td>1 semester</td>
<td>Technical school</td>
<td>Second Language Writing Anxiety Inventory, Writing quality</td>
</tr>
<tr>
<td>Dobao (2012)</td>
<td>U.S.</td>
<td>Quasi-experimental</td>
<td>Collaborative writing (English)</td>
<td>111</td>
<td>30 minutes</td>
<td>Undergraduate</td>
<td>Writing quality, Language Related Episodes</td>
</tr>
<tr>
<td>Wigglesworth &amp; Storch (2009)</td>
<td>Australia</td>
<td>Quasi-experimental</td>
<td>Collaborative writing (English)</td>
<td>96</td>
<td>40-60 minutes</td>
<td>Graduate</td>
<td>Writing quality, Language Related Episodes</td>
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<tr>
<td>Shehadeh (2011)</td>
<td>U.A.E.</td>
<td>Quasi-experimental</td>
<td>Collaborative writing (English)</td>
<td>38</td>
<td>12 weeks</td>
<td>Undergraduate</td>
<td>Writing quality</td>
</tr>
<tr>
<td>Storch (2005)</td>
<td>Australia</td>
<td>Quasi-experimental</td>
<td>Collaborative writing (English)</td>
<td>23</td>
<td>1 class period</td>
<td>Undergraduate</td>
<td>Writing quality</td>
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<tr>
<td>Study</td>
<td>Country</td>
<td>Design</td>
<td>Methodology</td>
<td>Participants</td>
<td>Duration</td>
<td>Participants Type</td>
<td>Measures</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------</td>
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<td>------------------------------</td>
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<td>----------</td>
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<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Iksan &amp; Halim (2018)</td>
<td>Malaysia</td>
<td>Experimental</td>
<td>Peer review (Online)</td>
<td>30</td>
<td>12 weeks</td>
<td>Undergraduate</td>
<td>Second Language Writing Anxiety Inventory</td>
</tr>
<tr>
<td>Choi (2013)</td>
<td>Korea</td>
<td>Quasi-experimental</td>
<td>Peer review (Online)</td>
<td>75</td>
<td>4 weeks</td>
<td>Undergraduate</td>
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<tr>
<td></td>
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</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>Types of feedback</td>
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<td>Jahin (2012)</td>
<td>Saudi Arabia</td>
<td>Quasi-experimental</td>
<td>Peer review</td>
<td>40</td>
<td>14 weeks</td>
<td>Undergraduate</td>
<td>Second Language Writing Anxiety Inventory</td>
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<td></td>
<td></td>
<td></td>
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<td>Writing quality</td>
</tr>
<tr>
<td>Kurt &amp; Atay (2007)</td>
<td>Turkey</td>
<td>Quasi-experimental</td>
<td>Peer review</td>
<td>86</td>
<td>1 semester</td>
<td>Undergraduate</td>
<td>Second Language Writing Anxiety Inventory</td>
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<tr>
<td></td>
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<td>Writing quality</td>
</tr>
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<td></td>
<td>Participant Interviews</td>
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<tr>
<td>Yastibas &amp; Yastibas (2015)</td>
<td>Turkey</td>
<td>Non-experimental</td>
<td>Peer review</td>
<td>16</td>
<td>8 weeks</td>
<td>Undergraduate</td>
<td>Second Language Writing Anxiety Inventory</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Participant Interviews</td>
</tr>
<tr>
<td>Cho &amp; Cho (2011)</td>
<td>U.S.</td>
<td>Non-experimental</td>
<td>Peer review (Online)</td>
<td>72</td>
<td>4 weeks</td>
<td>Undergraduate</td>
<td>Writing quality</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Types of feedback</td>
</tr>
<tr>
<td>Fallah (2017)</td>
<td>Iran</td>
<td>Non-experimental</td>
<td>Mindfulness</td>
<td>295</td>
<td>20 minutes</td>
<td>Undergraduate</td>
<td>FLAS CSES MAAS</td>
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<tr>
<td>Britt et al. (2018)</td>
<td>U.S.</td>
<td>Experimental</td>
<td>Mindfulness</td>
<td>277</td>
<td>8 weeks</td>
<td>Community college</td>
<td>WAT Writing quality</td>
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<tr>
<td>Study (Year)</td>
<td>Country</td>
<td>Type</td>
<td>Focus</td>
<td>Sample Size</td>
<td>Duration</td>
<td>Participants</td>
<td>Measures</td>
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<tr>
<td>----------------------</td>
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<td>----------------</td>
<td>--------------</td>
<td>-----------</td>
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<td>---------------------------------------------</td>
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<tr>
<td>Kang et al. (2009)</td>
<td>Korea</td>
<td>Experimental</td>
<td>Mindfulness</td>
<td>32</td>
<td>3 months</td>
<td>Undergraduate</td>
<td>STAI</td>
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<tr>
<td>Tang et al. (2007)</td>
<td>China</td>
<td>Experimental</td>
<td>Mindfulness</td>
<td>80</td>
<td>5 days</td>
<td>Undergraduate</td>
<td>ANT, POMS, Raven’s test, Cortisol test</td>
</tr>
<tr>
<td>Hjeltnes et al. (2015)</td>
<td>Norway</td>
<td>Qualitative</td>
<td>Mindfulness</td>
<td>29</td>
<td>8 weeks</td>
<td>Undergraduate</td>
<td>Participant interviews</td>
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</table>
Appendix D

Data Collection Matrix

<table>
<thead>
<tr>
<th>Process Evaluation Question</th>
<th>Process Evaluation Indicators</th>
<th>Data Source(s)</th>
<th>Data Collection Tool</th>
<th>Frequency</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the intervention include two practice peer review sessions and four actual peer review sessions that incorporated all of the planned activities? Adherence</td>
<td>Delivery of peer review sessions</td>
<td>Teacher</td>
<td>Intervention activity log (Google spreadsheet)</td>
<td>The teacher will update the log on the day that each activity is scheduled to occur</td>
<td>Use descriptive statistics to calculate the percent of total planned activities that the teacher implemented</td>
</tr>
<tr>
<td>Did participants fully complete all of the delivered peer review activities? Dose</td>
<td>Completion of peer review activities</td>
<td>Students</td>
<td>Intervention activity log (Google spreadsheet)</td>
<td>The teacher will update the log after grading each student text</td>
<td>Use descriptive statistics to calculate the percent of total planned activities that the students completed</td>
</tr>
<tr>
<td>What was the level of student participation in the peer review feedback discussions? Responsiveness</td>
<td>Level of active student participation</td>
<td>Researcher</td>
<td>Student Discussion Observation protocol</td>
<td>During each of six different class sessions</td>
<td>Input data from observation protocol and calculate the mean participation score for each student and calculate full range of descriptive statistics for all participants</td>
</tr>
<tr>
<td>Outcome Evaluation Question</td>
<td>Construct</td>
<td>Data Source(s)</td>
<td>Data Collection Tool</td>
<td>Frequency</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------</td>
<td>----------------</td>
<td>---------------------</td>
<td>-----------</td>
<td>--------------</td>
</tr>
<tr>
<td>To what extent did students’ writing anxiety decrease after participating in the peer review writing intervention?</td>
<td>Second language writing anxiety</td>
<td>Students</td>
<td>22-item Likert-scale Second Language Writing Anxiety Inventory (Cheng, 2004) Sample item: “I feel my heart pounding when I write English compositions under time constraint.”</td>
<td>Once prior to course start and again after course end</td>
<td>Comparison of pre and post intervention composite scores and subscale scores using descriptive statistics</td>
</tr>
</tbody>
</table>

| Which component(s) of the intervention do participants view as essential for decreasing writing anxiety? | Differentiation of program components | Students | Semi-structured Interview protocol questions | One in-depth interview with all participants at the end of the course | Conventional content analysis using inductive content coding |

| What was the level of quality of the teacher-led peer review activities? Quality of Delivery | Quality of interactive instruction | Researcher | Teacher Observation Protocol | During each of six different class sessions | Input data from observation protocol and calculate the overall mean score for teaching quality and calculate the full range of descriptive statistics |

<p>| To what extent did the intervention contribute to improvement in students’ writing performance? | Second language writing anxiety | Students | Test of Writing Performance (see appendix for questions) | Pre-post interviews and assessments | Conventional content analysis using inductive content coding |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Mediating Variable</th>
<th>Students</th>
<th>Self-efficacy for Writing Scale (SEWS) (Bruning et al., 2013)</th>
<th>Once prior to course start and again after course end</th>
<th>Comparison of pre and post intervention student writing scores using descriptive statistics and paired samples t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent did students’ self-efficacy for writing increase after participating in the peer review writing intervention?</td>
<td>Self-efficacy for academic writing</td>
<td>Students</td>
<td>Sample item 5: “I know exactly where to place my ideas in my writing.”</td>
<td>Once prior to course start and again after course end</td>
<td>Comparison of pre and post intervention student writing scores using descriptive statistics and paired samples t-test</td>
</tr>
</tbody>
</table>
## Appendix E

Second Language Writing Anxiety Inventory (Cheng, 2004)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I feel my heart pounding when I write English compositions under time constraint.</td>
</tr>
<tr>
<td>2</td>
<td>My mind often goes blank when I start to work on an English composition.</td>
</tr>
<tr>
<td>3</td>
<td>I tremble or perspire when I write English compositions under time pressure.</td>
</tr>
<tr>
<td>4</td>
<td>My thoughts become jumbled when I write English compositions under time constraint.</td>
</tr>
<tr>
<td>5</td>
<td>I often feel panic when I write English compositions under time constraint.</td>
</tr>
<tr>
<td>6</td>
<td>I freeze up when unexpectedly asked to write English compositions.</td>
</tr>
<tr>
<td>7</td>
<td>I usually feel my whole body rigid and tense when I write English compositions.</td>
</tr>
<tr>
<td>8</td>
<td>I often choose to write down my thoughts in English. (R)</td>
</tr>
<tr>
<td>9</td>
<td>I usually do my best to avoid writing English compositions.</td>
</tr>
<tr>
<td>10</td>
<td>I do my best to avoid situations in which I have to write in English.</td>
</tr>
<tr>
<td>11</td>
<td>Unless I have no choice, I would not use English to write compositions.</td>
</tr>
<tr>
<td>12</td>
<td>I would do my best to excuse myself if asked to write English compositions.</td>
</tr>
<tr>
<td>13</td>
<td>I usually seek every possible chance to write English compositions outside of class. (R)</td>
</tr>
<tr>
<td>14</td>
<td>Whenever possible, I would use English to write compositions. (R)</td>
</tr>
<tr>
<td>15</td>
<td>While writing in English, I’m not nervous at all. (R)</td>
</tr>
<tr>
<td>16</td>
<td>While writing English compositions, I feel worried and uneasy if I know they will be evaluated.</td>
</tr>
<tr>
<td>17</td>
<td>I don’t worry that my English compositions are a lot worse than others’. (R)</td>
</tr>
<tr>
<td>18</td>
<td>If my English composition is to be evaluated, I would worry about getting a very poor grade.</td>
</tr>
<tr>
<td>19</td>
<td>I’m afraid that the other students would deride my English composition if they read it.</td>
</tr>
<tr>
<td>20</td>
<td>I don’t worry at all about what other people would think of my English compositions. (R)</td>
</tr>
<tr>
<td>21</td>
<td>I’m afraid of my English composition being chosen as a sample for discussion in class.</td>
</tr>
<tr>
<td>22</td>
<td>I’m not afraid at all that my English compositions would be rated as very poor. (R)</td>
</tr>
</tbody>
</table>

*Note.* 1-7 is somatic subscale; 8-14 is avoidance behavior subscale; 15-22 is cognitive subscale
Appendix F

Self-efficacy for Writing Scale

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I can think of many ideas for my writing.</td>
</tr>
<tr>
<td>2</td>
<td>I can put my ideas into writing.</td>
</tr>
<tr>
<td>3</td>
<td>I can think of many words to describe my ideas.</td>
</tr>
<tr>
<td>4</td>
<td>I can think of a lot of original ideas.</td>
</tr>
<tr>
<td>5</td>
<td>I know exactly where to place my ideas in my writing.</td>
</tr>
<tr>
<td>6</td>
<td>I can spell my words correctly.</td>
</tr>
<tr>
<td>7</td>
<td>I can write complete sentences.</td>
</tr>
<tr>
<td>8</td>
<td>I can punctuate my sentences correctly.</td>
</tr>
<tr>
<td>9</td>
<td>I can write grammatically correct sentences.</td>
</tr>
<tr>
<td>10</td>
<td>I can begin my paragraphs in the right spots.</td>
</tr>
<tr>
<td>11</td>
<td>I can focus on my writing for at least one hour.</td>
</tr>
<tr>
<td>12</td>
<td>I can avoid distractions while I write.</td>
</tr>
<tr>
<td>13</td>
<td>I can start writing assignments quickly.</td>
</tr>
<tr>
<td>14</td>
<td>I can control my frustration when I write.</td>
</tr>
<tr>
<td>15</td>
<td>I can think of my writing goals before I write.</td>
</tr>
<tr>
<td>16</td>
<td>I can keep writing even when it’s difficult.</td>
</tr>
</tbody>
</table>
Appendix G

Student Discussion Observation Protocol

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Communication of ideas</th>
<th>Proportion of student talk</th>
<th>Language related episodes</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td></td>
</tr>
</tbody>
</table>

Note. 1=Never Occurred, 4=Very Descriptive; Protocol adapted from Piburn et al. (2000); Communication of Ideas=Students were involved in the communication of their ideas to others using a variety of means and media. Proportion of Student Talk=There was a high proportion of student talk and a significant amount of it occurred between and among students. Language Related Episodes=There was a high proportion of discussion that was focused on the target language features.
### Teacher Observation Protocol

<table>
<thead>
<tr>
<th>Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lesson involved fundamental concepts of peer review.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>The lesson promoted strongly coherent conceptual understanding.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>The teacher had a solid grasp of the subject matter content inherent in the lesson.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Elements of abstraction (i.e., symbolic representations, theory building) were encouraged when it was important to do so.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Connections with other content disciplines and/or real-world phenomena were explored and valued.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Active participation of students was encouraged and valued.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Students were encouraged to generate conjectures, alternative solution strategies, and ways of interpreting evidence.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>The teacher acted as a resource person, working to support and enhance student investigations.</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

*Note.* 1=Never Occurred, 4=Very Descriptive; Protocol adapted from Piburn et al. (2000)
Appendix I

Semi-structured Individual Interview Protocol

(Pre-intervention) Semi-structured Individual Interview Protocol

1. Could you please describe any ways that your prior English studies have influenced your feelings of confidence about being able to write well in English?

2. Again, please think about your prior experiences studying English. Could you please describe any ways that your prior experiences studying English influenced anxiety that you had about writing in English?

3. Please describe any prior activities that you found most and least helpful for improving the quality of your academic writing.

4. Please describe any ways that classmates have helped you improve your writing in the past.
(Post-intervention) Semi-structured Individual Interview Protocol

1. I would like you to think about the peer review activities that you completed during class this session. Could you please describe any ways that these interactions influenced your feelings of confidence about being able to write well in English?

2. Again, please think about your interactions with your peer during class time. Could you please describe any ways that these interactions influenced anxiety that you had about writing in English?

3. I would like you to think about the peer review activities that you completed during class this session. Please describe which of the peer review activities were most and least helpful for improving the quality of your academic writing.

4. What role did reading peer essays play in your learning about writing this semester?

Note*: The researcher will provide students with prior peer-marked essays to facilitate response to this question.

Note**: The researcher will provide students with a peer review rubric to facilitate students’ response to this question.

Note***: The researcher will provide students with prior peer-marked essays to facilitate response to this question.
Appendix J

Intervention Activity Log Example

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Practice 1 (T)</th>
<th>Practice 1 (S)</th>
<th>Practice 2 (T)</th>
<th>Practice 2 (S)</th>
<th>Essay 1 (T)</th>
<th>Draft 1.1</th>
<th>Draft 1.2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note. Due to space limitations this figure only shows the first two sessions. Students receive a binary score of 0 or 1; 1=successfully completed task; 0=did not successfully complete task; T=teacher implementation of task; S=student implementation of task
## Appendix K

### Logic Model

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>OUTCOMES</th>
</tr>
</thead>
</table>
| **INPUTS**
- Budget: Approved FY21 budget for FT and PT faculty pay
- Time: Class time (120 minutes 2 times per week); approved faculty planning time to work on intervention
- Faculty: 2 FT faculty with prior experience implementing peer review
- Curriculum: Writing course SLOs; Sample student essays for practice texts
- Facilities: Available classrooms with WIFI and smartboards
- Technology: Online share folders for data storage; Canvas LMS for course content
| **SHORT TERM**
- Knowledge: Increase in student knowledge of quality academic writing
- Self-efficacy: Increase in students’ self-efficacy for academic writing
- Anxiety: Decrease in students’ reported levels of writing anxiety
| **INTERMEDIATE**
- Improvement in student writing performance
| **LONG TERM**
- Increase in all course grades

| ACTIVITIES
- Develop products: 2 practice rubrics, 3 assignment rubrics, 2 sample essays, 1 weekly schedule for course
- Practice (Classes 1-2): Teacher models how to use rubrics; students practice using rubrics to give feedback on sample essay; students role play giving feedback using sample essay
- Write and Review (Classes 3-6): Students write 4 essays of different genres; students use rubrics to correct peer essays during class; Students share language – focused feedback in pairs during class
- Revise: Students use feedback to revise essays at home; Teacher grades essays using rubric
| **OUTPUT**
- First Draft: Students produce 3 first draft essays of different genres
- Rubrics: Students use 3 rubrics to give written feedback on 3 different peer essays
- Discussion: Students discuss feedback in pairs independently for 15 minutes
- Final Draft: Students produce 3 final draft essays with corrections from feedback
- Teacher feedback: The teacher uses rubrics to grade and return 3 essays to students

| PARTICIPANTS
- Teachers: 1 faculty member for the Editing Writing course
- Students: 1 academic writing class comprised of adult ESL learners; class size is approximately 3-12 students; student writing proficiency is 300-level or higher (i.e. advanced)
| **Assumptions:** Students have advanced English or higher and will complete assignments on time and engage actively in peer review activities

| **External Factors:** Sufficient enrollment for writing classes; support from department leadership for intervention

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Appendix L

EAPP Pre-test of Writing Performance

Instructions
This English placement test consists of two parts. In the first part, you will be asked to rephrase five statements about the advantages and disadvantages of nuclear energy. In the second part, you will be asked to write an essay about this same topic.

Part One

In the first part of this test, you will see five statements about the advantages and disadvantages of nuclear energy. Please read each statement carefully. Rephrase each statement in the space below by changing the words and structure but retain the original meaning. You will have 6 minutes to rephrase each statement.

Statements

1. Nuclear is not only emissions-free but renewing our commitment to nuclear power will create countless jobs at a time when our nation endures nearly double-digit unemployment.
   - Fred Upton

2. As expanding economies continue to grow, the one source of energy that we can develop rapidly, cheaply and with next-to-no emissions is nuclear energy.
   - Craig Stevens

3. While the electricity seems cheaper up front, the exorbitant costs of building and maintaining plants must be added into the equation -- something industry experts rarely do. Long-term storage of nuclear waste is expensive and dangerous. Next, add the expense of finding and retaining skilled labor. When it’s all said and done, the claim that nuclear power is more cost effective than alternatives like wind, solar, or even coal becomes a little cloudier.
   - Joanna Burgess

4. Advocates for nuclear energy often cite its emissions-free electricity. But just as coal mining scars the land and pollutes water supplies, uranium mining doesn’t come without a heavy environmental cost.
   - Jeffrey M. Smith

5. As heat waves, raging forest fires and devastating hurricanes become the norm, it’s crystal clear that a solution to global warming must be found, and found fast. Is nuclear power the shining star? It all depends on whom you ask. One of the main arguments against nuclear energy is time. Plants take upwards of ten years to build but global warming is happening now. It won’t
wait around for new nuclear power plants to appear on the scene. Proponents argue that the amount of energy a nuclear power plant generates far outweighs the timeline issue. Megawatt for megawatt, it produces more clean energy than wind or solar once it’s up and running.

- Joanna Burgess

**Part Two**

In the second part of this test, you will use your responses from above as you write a well-developed essay in which you defend one of the following assertions:

Nuclear energy should be considered as a viable source of energy to meet the world’s escalating energy demands. (2) Nuclear energy should not be considered as a viable source of energy to meet the world’s escalating energy demands.

Your response should include information from at least two of the passages in questions one through five (provided below) and may also draw upon your own knowledge about nuclear energy. You will have 60 minutes to write this essay.

Remember that a well-developed essay has an introduction, more than one body paragraph, and a conclusion. Please click on the SAVE button from time to time to save your work!

Write your essay in the space provided below.
Appendix M

Table M1: Correlation Table for Test Ratings

Correlations for Pre- and Post-tests of Writing Performance

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Pre R1</th>
<th>Pre R2</th>
<th>Post R1</th>
<th>Post R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre R1</td>
<td>8</td>
<td>15</td>
<td>2.98</td>
<td>Pearson Correlation</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pearson Correlation</td>
<td>-0.017</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.968</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Pre R2</td>
<td>8</td>
<td>13.63</td>
<td>2.83</td>
<td>Pearson Correlation</td>
<td>.781*</td>
<td>-0.439</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.022</td>
<td>0.276</td>
<td>—</td>
</tr>
<tr>
<td>Post R1</td>
<td>8</td>
<td>19.13</td>
<td>2.95</td>
<td>Pearson Correlation</td>
<td>-.805*</td>
<td>-0.207</td>
<td>-0.557</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.016</td>
<td>0.623</td>
<td>0.151</td>
</tr>
</tbody>
</table>

Note: * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed). N=8. Pre-R1=Rater one’s ratings of the writing pre-test; Pre-R2 Rater two’s ratings of the pre-test of writing; Post-R1=Rater one’s ratings of the post-test of writing; Post-R2=Rater two’s ratings of the post-test of writing.
Table M2: Correlation Table for Survey Results

*Correlations for Pre- and Post-survey Instruments*

<table>
<thead>
<tr>
<th></th>
<th>Pre-SLWAI</th>
<th>Pre-SEWS</th>
<th>Post-SLWAI</th>
<th>Post-SEWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-SLWAI</td>
<td>Pearson Correlation</td>
<td>—</td>
<td>-0.629</td>
<td>.806*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>—</td>
<td>0.130</td>
<td>0.029</td>
</tr>
<tr>
<td>Pre-SEWS</td>
<td>Pearson Correlation</td>
<td>-0.629</td>
<td>—</td>
<td>-0.633</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.130</td>
<td>—</td>
<td>0.127</td>
</tr>
<tr>
<td>Post-SLWAI</td>
<td>Pearson Correlation</td>
<td>.806*</td>
<td>-0.633</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.029</td>
<td>0.127</td>
<td>—</td>
</tr>
<tr>
<td>Post-SEWS</td>
<td>Pearson Correlation</td>
<td>-0.509</td>
<td>.884**</td>
<td>-0.471</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.243</td>
<td>0.008</td>
<td>0.286</td>
</tr>
</tbody>
</table>

*Note:* *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed). N=7. Pre-SLWA=Pre-test of the Second Language Writing Anxiety Inventory; Pre-SEWS=Pre-test of the Self-efficacy for Writing Scale; Post-SLWAI=Post-test of the Second Language Writing Anxiety Inventory; Post-SEWS=Post-test of the Self-efficacy for Writing Scale.
Appendix N

Writing Performance Rubric

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Descriptor</th>
<th>Descriptor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of the paraphrases capture the author’s intended meaning. Some changes have been made to the words and sentence structure, though improvement is needed and errors are present. (1)</td>
<td>All or nearly all the paraphrases capture the author’s intended meaning. Substantial changes have been made to the words and sentence structure, though the paraphrases need slight improvement. (2)</td>
<td>Accurately paraphrases the source text by changing the vocabulary and sentence structure while capturing the author’s intended meaning (3)</td>
<td></td>
</tr>
<tr>
<td>Sustains an argument with some lapses in cogency or coherence (1)</td>
<td>Sustains a mostly cogent and coherent argument (2)</td>
<td>Sustains a cogent and coherent argument (3)</td>
<td></td>
</tr>
<tr>
<td>Substantiates his/her thesis with examples, narration, argumentation and analysis which need greater specificity and detail to be convincing (1)</td>
<td>Generally substantiates his/her thesis with specific examples, detailed narration, convincing argumentation and analysis (2)</td>
<td>Substantiates his/her thesis with specific examples, detailed narration, convincing argumentation and analysis (3)</td>
<td></td>
</tr>
<tr>
<td>Explains abstract ideas with some degree of clarity, logic, and fluency (1)</td>
<td>Generally explains abstract ideas clearly, logically, and fluently (2)</td>
<td>Explains abstract ideas clearly, logically, and fluently (3)</td>
<td></td>
</tr>
<tr>
<td>Writing is organized formulaically, with little variation in discourse markers, cohesive devices, and transitions (1)</td>
<td>Writing is generally organized through convincing structure and lexicon, with some, albeit not sufficient, variation in discourse markers, cohesive devices, and transitions (2)</td>
<td>Skillfully organizes his/her writing through convincing structure and lexicon, including varied discourse markers, cohesive devices, and transitions (3)</td>
<td></td>
</tr>
<tr>
<td>Explanation lacks detail or does not show proficiency in all time frames and aspects (1)</td>
<td>Somewhat detailed explanations in most time frames and aspects (2)</td>
<td>Provides detailed explanations in all time frames and aspects (3)</td>
<td></td>
</tr>
</tbody>
</table>

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Appendix O

Student Peer Review Rubric

<table>
<thead>
<tr>
<th>Text 2 Rubric</th>
<th>Acceptable</th>
<th>Mostly correct</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The writer accurately composes compound and complex sentences.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The writer uses paragraph organization, including topic sentences, supporting evidence, and conclusions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The writer avoids run-on sentences and sentence fragments.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The writer effectively summarizes the main ideas of the source text.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The writer effectively responds to the source text by using advanced levels of Bloom’s taxonomy.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The writer uses parallel structure where necessary.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The writer uses paragraph organizing patterns.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The writer uses strategies for coherence and cohesion.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The writer uses effective logical reasoning and support for their claims.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The writer avoids logical fallacies in their writing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix P

Participants’ Evaluation of Importance of Intervention Components

<table>
<thead>
<tr>
<th></th>
<th>Participant 02</th>
<th>Participant 03</th>
<th>Participant 04</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peer pairing</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>“I also learned because…they are in the TLM Majors.”</td>
<td>“…when dealing with people things get complicated.”</td>
<td>“I can learn a lot of like, advanced expressions from her”</td>
<td></td>
</tr>
<tr>
<td><strong>Reading peer texts</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>“I can also learn much about their essay.”</td>
<td>“That's the model that I can learn [from].”</td>
<td>“And by reading her essay, I can identify a lot of these patterns…”</td>
<td></td>
</tr>
<tr>
<td><strong>All activities useful</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>“I think they are all quite useful for me.”</td>
<td>“I think they are good activities”</td>
<td>“I think all of them [are] beneficial.”</td>
<td></td>
</tr>
<tr>
<td><strong>Peer feedback/ discussions</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>“…get feedback from my peers and you, they are very helpful…”</td>
<td>“he thinks it's not that clear.”</td>
<td>“I think the review session is very helpful”</td>
<td></td>
</tr>
<tr>
<td><strong>Teacher feedback</strong></td>
<td>✓</td>
<td>—</td>
<td>✓</td>
</tr>
<tr>
<td>“…get feedback from my peers and you, they are very helpful…”</td>
<td>—</td>
<td>“I can fix my essay based on your suggestions.”</td>
<td></td>
</tr>
<tr>
<td><strong>Strategy use</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
“…we need to use the formal email writing format.”  
So sometimes I will notice whether my strategy was clear enough  
“[peer review] can strengthen my memory about the course content”

<table>
<thead>
<tr>
<th>Revisions</th>
<th>✓</th>
<th>✓</th>
<th>✓</th>
</tr>
</thead>
<tbody>
<tr>
<td>“[feedback] can help me to revise…”</td>
<td>“I do need to revise the sentences”</td>
<td>“I think my own revision helps…”</td>
<td></td>
</tr>
</tbody>
</table>

| Practice Sessions | — | — | — |

| Rubric Use | — | — | — |

*Note. (N=3). Quotations are from post-intervention semi-structured interviews of three participants. The quotations illustrate participants’ opinions about the usefulness of each intervention component listed on the y-axis.*
### Appendix Q

Table Q1: Pre-intervention Interview Code book

<table>
<thead>
<tr>
<th>Holistic Codes</th>
<th>Coding</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time pressure</td>
<td>Timed writing</td>
<td>Stressful Experiences</td>
</tr>
<tr>
<td></td>
<td>“feel pressure”</td>
<td>Refers to prior experiences in which students expressed feeling forms of stress related to writing in English</td>
</tr>
<tr>
<td></td>
<td>“feel stressed”</td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td>“college entrance exam”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IELTS Test x3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low grade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poor result</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“take the exam”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“compared with others”</td>
<td></td>
</tr>
<tr>
<td>+/-Pratice</td>
<td>Real world English</td>
<td>Learning to Write</td>
</tr>
<tr>
<td></td>
<td>Write essay</td>
<td>Refers to prior experiences that students viewed as beneficial or non-beneficial for improving their ability to write well in English.</td>
</tr>
<tr>
<td></td>
<td>Write paragraph</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grammar focus x 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge gap</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“focus more on grammar” x2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not much writing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“didn’t focus on writing”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Finding ideas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular practice</td>
<td></td>
</tr>
<tr>
<td>Model Writing</td>
<td>Example texts</td>
<td>Linguistic Resources</td>
</tr>
<tr>
<td></td>
<td>“imitate the sentence structures”</td>
<td>Refers to various forms of linguistic input, whether from individuals or physical/digital text resources, that students viewed as benefiting their writing development.</td>
</tr>
<tr>
<td></td>
<td>“accumulate some expressions”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Text patterns</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sentence frames</td>
<td></td>
</tr>
<tr>
<td></td>
<td>English articles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Writing Resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“useful sentences”</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>+/-peer support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+teacher support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“compensate for each other”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“encourage me”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“inspired by ideas”</td>
<td></td>
</tr>
<tr>
<td>Teacher feedback</td>
<td>Feelings about writing</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>+/--Emotions</td>
<td>Refers to instances in which students referenced experiencing positive or negative emotions related to prior experiences writing in English.</td>
<td></td>
</tr>
<tr>
<td>“feel more confident”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“doesn’t increase confidence”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“not very confident”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“very depressed”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“feel discouraged”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“less confident”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“a lot of mistakes”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“always feel anxiety”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannot write</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“very afraid”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxious</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embarrassed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“judge me”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“feel shame”</td>
<td></td>
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</tr>
</tbody>
</table>
### Table Q2: Post-intervention Interview Code book

<table>
<thead>
<tr>
<th>Holistic Codes</th>
<th>Coding</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>+/- Confidence</td>
<td>“increase your confidence”</td>
<td>Emotional Development</td>
</tr>
<tr>
<td></td>
<td>“Feel more confidence”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“feel much better”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“improved my confidence”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“become more confident”</td>
<td></td>
</tr>
<tr>
<td>+/- Anxiety</td>
<td>“won’t feel nervous”</td>
<td>Refers to improvement in participants’ experiences of self-efficacy for</td>
</tr>
<tr>
<td></td>
<td>“in the same boat”</td>
<td>writing and writing anxiety after the intervention.</td>
</tr>
<tr>
<td></td>
<td>“Feel a little bad”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“anxiety is decreased”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“a little bit anxious”</td>
<td></td>
</tr>
<tr>
<td>Reader’s</td>
<td>“whether my strategy was clear”</td>
<td>Negotiating Understanding</td>
</tr>
<tr>
<td>perspective</td>
<td>“not that clear”</td>
<td></td>
</tr>
<tr>
<td>Peer interactions</td>
<td>Peer pairing x5</td>
<td>Refers to situations in which participants collaborated to improve the</td>
</tr>
<tr>
<td></td>
<td>Disagreement x7</td>
<td>accuracy of their texts and their understanding of academic writing</td>
</tr>
<tr>
<td></td>
<td>Feedback x9</td>
<td>conventions.</td>
</tr>
<tr>
<td></td>
<td>“open”x2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“helpful suggestions”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“cooperate with each other”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“attack problem together”</td>
<td></td>
</tr>
<tr>
<td>Writing process</td>
<td>Revising x5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Researching x5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Finding mistakes x6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strategies x 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strategies x4</td>
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</tr>
<tr>
<td></td>
<td>Researching</td>
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<tr>
<td>Peer Modeling</td>
<td>Learning from peer</td>
<td>Linguistic Development</td>
</tr>
<tr>
<td></td>
<td>“learn advanced expressions”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“I got some inspirations”</td>
<td>Refers to times when participants explicitly mentioned the intervention</td>
</tr>
<tr>
<td>Writing</td>
<td>“definitely improved”</td>
<td>activities helping to improve their writing skills.</td>
</tr>
<tr>
<td>Improvement</td>
<td>Improving x2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Independence x3</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix R

### Writing Performance Test Rubric

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Descriptor</th>
<th>Descriptor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Most of the paraphrases capture the author’s intended meaning. Some changes have been made to the words and sentence structure, though improvement is needed and errors are present. (1)</strong></td>
<td><strong>All or nearly all the paraphrases capture the author’s intended meaning. Substantial changes have been made to the words and sentence structure, though the paraphrases need slight improvement. (2)</strong></td>
<td><strong>Accurately paraphrases the source text by changing the vocabulary and sentence structure while capturing the author’s intended meaning (3)</strong></td>
<td></td>
</tr>
<tr>
<td>Sustains an argument with some lapses in cogency or coherence (1)</td>
<td>Sustains a mostly cogent and coherent argument (2)</td>
<td>Sustains a cogent and coherent argument (3)</td>
<td></td>
</tr>
<tr>
<td>Substantiates his/her thesis with examples, narration, argumentation and analysis which need greater specificity and detail to be convincing (1)</td>
<td>Generally substantiates his/her thesis with specific examples, detailed narration, convincing argumentation and analysis (2)</td>
<td>Substantiates his/her thesis with specific examples, detailed narration, convincing argumentation and analysis (3)</td>
<td></td>
</tr>
<tr>
<td>Explains abstract ideas with some degree of clarity, logic, and fluency (1)</td>
<td>Generally explains abstract ideas clearly, logically, and fluently (2)</td>
<td>Explains abstract ideas clearly, logically, and fluently (3)</td>
<td></td>
</tr>
<tr>
<td>Writing is organized formulaically, with little variation in discourse markers, cohesive devices, and transitions (1)</td>
<td>Writing is generally organized through convincing structure and lexicon, with some, albeit not sufficient, variation in discourse markers, cohesive devices, and transitions (2)</td>
<td>Skillfully organizes his/her writing through convincing structure and lexicon, including varied discourse markers, cohesive devices, and transitions (3)</td>
<td></td>
</tr>
<tr>
<td>Explanation lacks detail or does not show proficiency in all time frames and aspects (1)</td>
<td>Somewhat detailed explanations in most time frames and aspects (2)</td>
<td>Provides detailed explanations in all time frames and aspects (3)</td>
<td></td>
</tr>
<tr>
<td>Errors are noticeable in grammar, syntax, spelling, and punctuation and may occasionally impede understanding (1)</td>
<td>Mostly accurate and appropriate grammar, syntax, spelling, and punctuation. Errors, while present, are minor and do not impede understanding (2)</td>
<td>Uses accurate and appropriate grammar, syntax, spelling, and punctuation (3)</td>
<td></td>
</tr>
<tr>
<td>Style, tone, and register need improvement to adhere to the conventions for academic writing (1)</td>
<td>Style, tone, and register generally appropriate for academic writing though some improvement is needed (2)</td>
<td>Demonstrates appropriate style, tone, and register (3)</td>
<td></td>
</tr>
<tr>
<td>Uses a somewhat limited range of general and specific vocabulary that needs greater precision, subtlety, and nuance (1)</td>
<td>Demonstrates an adequate range of general and specific vocabulary. Some improvement is needed for greater precision, subtlety, and nuance (2)</td>
<td>Uses a broad range of general and specific vocabulary, which expresses precision, subtlety, and nuance (3)</td>
<td></td>
</tr>
</tbody>
</table>

**Total**

|   |   |   | 27 |

246
Rogers S. Walker  
Pacific Grove, CA • 93950  
Phone (843) 685-3172 • E-MAIL rogerswalker@gmail.com  

SUMMARY  
Passionate educator who uses creative, evidence-based practices for improving English Language Learners outcomes in P-16 contexts and beyond.

EDUCATION  
Doctor of Education—Mind, Brain, and Teaching specialization  
Johns Hopkins University, Baltimore, MD  
Expected conferral August 2021  
Master of Arts—Applied Linguistics  
Columbia University, New York, NY  
Graduated 2009  
Bachelor of Arts—English Literature, Minor in Journalism  
George Washington University, Washington, DC  
Graduated 2003

Experience in education

June 2015—Present  
Associate Director of Intensive English Programs: Middlebury Institute of International, Monterey, CA  
- Oversee the daily affairs of three high-quality English programs: Intensive English Program, English Preparation for Graduate Studies, and short-term English programs  
- Develop and teach face-to-face and online programs for teen ELL learners  
- Oversee hiring, evaluation, professional development and scheduling for team of fulltime and adjunct faculty, program tutors, and program assistants  
- Collaborate with faculty and students in the TESOL graduate program on projects and student field experiences  
- Write grants and manage implementation and evaluation of teacher training programs

May 2014—May 2015  
Program Director: American Language Academy, Greensboro, NC  
- Oversaw daily operations of private, CEA-accredited English language school that had multiple branches and an average of 130 students per session from over 20 countries  
- Developed and implemented English programs for teens and young adults  
- Managed budget and forecasted needs for department within company  
- Supervised academic faculty and staff of approximately 15 employees and interns  
- Recruited, hired, trained, and mentored faculty; and led initial and annual performance evaluation processes  
- Managed and lead professional development workshops for faculty and staff  
- Reviewed and selected textbooks for all courses at all three campus locations  
- Developed curriculum and materials and taught in a K-12 ELL teacher training program
June 2013—May 2014 Business Development Specialist / Instructor: American Language Academy, Greensboro, NC

- Led development of strategic partnerships and programs with domestic and international schools, universities, agents, and governments for growing school
- Taught various levels of English classes as needed

January 2013—June 2014 Instructor: College of Charleston, Charleston, SC

- Taught high intermediate ELL classes in this small, diverse college prep English program.

January 2012—December 2012 Instructor: Temple University, Philadelphia, PA

- Taught diverse levels and skills of ELL classes with specialty in academic writing
- Led curriculum overhaul committee to improve standardization of curriculum

June 2010—July 2011 Instructor: Kaplan International, Philadelphia, PA

- Taught diverse levels and skills of ELL classes in this Intensive English Program
- Taught TOEFL preparation class and led student trips and activities


- Taught diverse levels and skills of ELL classes in this Intensive English Program
- Taught TOEFL preparation class, and led student trips and activities

Summer 2008 Instructor: Columbia University New York, NY

- Taught Advanced academic writing class in this community English program

Conference Presentations


Select Publications

