# An Investigation of Differences and Changes in L2 Writing Anxiety between Blended and Conventional English Language Learning Context

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## Abstract

This study investigated the influence of blended vs. conventional writing environments and L2 proficiency on cognitive, somatic, and behavioral components of L2 English writing anxiety. Second language anxiety was measured using Cheng's (2004) Second Language Writing Anxiety Inventory (L2WAI) which measures cognitive, somatic, and behavioral components of L2 writing anxiety. Students were separated into a blended learning group that completed writing assignments through online forums and a conventional pen-and-paper group that completed writing assignments by hand. Students in both groups were required to write 200-300 words per task as well as provide feedback to two other students for each task. Students in the blended learning group provided feedback through the course learning management system while those in the conventional group provided feedback in class. Behavioral anxiety was found to be the highest for both groups followed by somatic and then cognitive. Post-L2WAI results found that blended learning students reported increases in behavioral anxiety while conventional pen-and-paper ones had increases in somatic anxiety. No decreases in anxiety were observed. A positive linear relationship was found when comparing L2 writing anxiety and L2 proficiency. Qualitative data from open-ended survey items provided better understanding to student perceptions of L2 writing anxiety. Research findings provide support for pedagogical recommendations to mitigate L2 writing anxiety.

**Keywords:** Blended Learning, Computer Aided Language Learning, Writing Anxiety, Written Feedback, Writing Instruction

## Introduction

The onset of new technology like Smartphones, tablets, and laptops in combination with high-speed Internet access provides new opportunities for English language learners to

use English through learning management systems (LMS) and social network sites. Using such online platforms for writing instruction provides a source of exposure to second language (L2) writing which may have a mitigating influence on students' L2 writing anxiety (Docan-Morgan & Schmidt, 2012). Investigating how different learning environments influence English writing anxiety could help educators choose whether a blended or conventional channel of writing instruction is better for their students. For instance, students high in behavioral anxiety may not do as well in a blended learning course because the added layer of online study responsibilities could trigger avoidance behavior (e.g., watch TV instead of study). These students may require more classroom scaffolding by an instructor than students with less anxiety.

Blended learning research using forum-assisted writing instruction is becoming more common in countries like South Korea (Bailey, 2016) and the use of learning management systems in language classes "is becoming ubiquitous in current higher education" (Jo, Park, Kim, & Song, 2014, p. 72). Staker and Horn (2012) define blended learning as a "formal education program in which a student learns, at least in part, through delivery of content and instruction via digital and online media with some element of student control over time, place, path, and pace" (p. 3). Blended learning environments create new obstacles for language learners to overcome, especially for L2 writers who must navigate online writing platforms in addition to comprehending conventional writing instruction. The added responsibility of uploading and sharing writing compositions with others could be in and of itself a source of L2 writing anxiety.

Thompson (1980) defines writing anxiety as a "fear of the writing process that outweighs the projected gain from the ability to write" (p. 121), and writing anxiety has been found to correlate highly with poor writing performance (Cheng, 2004; Kim, 2006; Pae, 2007). Cheng's (2004) L2WAI identifies three sub components to writing anxiety which are cognitive, somatic, and behavioral anxiety. Cognitive anxiety refers to the mental aspect of anxiety (i.e., negative expectations, preoccupation with performance, and concern about others' perceptions). Somatic anxiety refer to autonomic responses (i.e., nervousness and tension), and behavioral anxiety refers to procrastination, withdrawal, and overall avoidance behavior.

A number of South Korean studies have found a statistically significant negative relationship with L2 English proficiency and L2 English anxiety (i.e., lower L2 proficiency learners have higher L2 anxiety) (Kim, 2007; Pae, 2007; 2012; Sin, 2004); however, both the exploratory study leading up to this research as well as Adkin's (2015) study found statistically significant positive relationships with L2 English proficiency and L2 English anxiety. Pae's (2007) study was limited to a small sample size of 15 intermediate L2 English proficiency students, so this small sample size with students at the same L2 proficiency level limited any generalizations associated with the positive correlation found with proficiency and anxiety. The present study expands on Pae's (2007) research by including a larger number of participants representing a wider spectrum of L2 English proficiency levels.

The aim of this study was twofold: First, to better understand the influence blended and conventional L2 writing contexts have on L2 writing anxiety in order to determine if the mitigating results in anxiety due to exposure to English found with Docan-Morgan and Schmidt's (2012) study could be similar with L2 writing anxiety. Secondly, this study investigated how changes in L2 writing anxiety vary among low, medium, and high L2

proficient learners. Through answering these questions, we hope to gain insight into coping strategies for decreasing L2 writing anxiety by gaining a better understanding of anxiety among students learning in different environments (i.e., blended vs conventional) and at different L2 proficiency levels.


## Literature Review

### Blended Learning

Blended learning combines face-to-face instruction in a brick and mortar classroom with online learning (Graham, Woodfield, & Harrison, 2013). The model of blended learning is based on a constructivist point of view: people actively construct new knowledge as they interact with their environment. Social Constructivism asserts that learning is particularly effective when producing something for others to experience (Vygotsky, 1978). The present study extends this assertion to include online writing contributions. Online forums can propel constructivism into social settings, wherein groups construct knowledge for one another, collaboratively creating a small culture of shared artifacts with shared meanings (Raleigh, 2015).

   Any disadvantage a blended learning course may have is mitigated through careful course planning (Savenye, Olina, & Niemczyk, 2001; Sunal & Sunal, 2003). The online learner is dependent on the instructor's ability to present learning material. To optimize teaching excellence, the instructor should be trained and have experience in blended learning teaching pedagogy (Husson & Waterman, 2002); however, the instructor is only one stakeholder. Student participation is an integral component to successful learning occurring within a blended learning environment.

   Research has shown online channels of communication like forums can be used to assist writing instruction (Anderson & Miyazoe, 2010; Fitze, 2006; Kol & Schcolnik, 2008). Anderson and Miyazoe's (2010) study was unique because they investigated the student perceptions and success at acquiring the target language when using a combination of forums, wikis, and blogs among 61 Japanese English students over a 2-year multicourse treatment. They found forums and wikis tended to be more social activities while student-to-student discourse in blogs was rare.   Forums are still new in the field of language learning but a growing number of papers show their usefulness as a viable collective learning tool (Anderson & Miyazoe, 2010; Bailey, 2016; Fitze, 2006; Lund, 2008). Kol and Schcolnik (2008) revealed positive attitudes by students when participating in online forums. Students more readily perceived improvements in their writing (Kol & Schcolnik, 2008), indicating students are accepting of forum writing platforms within EFL classrooms.

   Studies have revealed benefits to online learning environments. Hartman et al. (1995) found that the use of technology redistributes teacher and classmate attention allowing low proficient learners to become more active participants in the class. Beauvois (1998) showed how web-based instruction for writing tasks gave students opportunity to express themselves, resulting in increased communication. Stepp-Greany (2002) listed benefits for L2 English students made possible through blended learning. These include increased motivation, recall of the target language, and self-regulated learning.

**Writing Anxiety**

Cheng (2004) found that writing anxiety is a language-skill-specific anxiety, while foreign language classroom anxiety was a more general anxiety based in formal-education context. Abdel-Latif (2015) carried out a qualitative study that found students attributed L2 writing anxiety to "their worry about being criticized by teachers, on one hand, and by peers on the other" (p. 204). Kim (2006) investigated the association of writing anxiety with writing achievement among 136 EFL Korean college students. Kim administered the Writing Apprehension Test (WAT). Three factors were identified: negative perceptions about writing (e.g., I'm nervous about writing in English), fear of evaluation (e.g., discussing my English writing with others isn't enjoyable), and behavioral (e.g., I avoid writing in English). Through correlation analysis, the study found higher writing anxiety among students with lower final grades. Kim suggested that writing instructors promote student-centered classrooms which focus on students' perceptions about their writing ability and encourage positive self-talk.

Kurt and Atay (2007) investigated the effects of peer feedback on writing anxiety among 86 education students (experimental group, n = 44; comparison group, n = 42). The experimental group worked in pairs in order to provide checklist-guided peer-to-peer corrective feedback over the course of 8 weekly sessions of 3 hours. The comparison group received checklist-guided corrective feedback from the instructor. Participants in both the experimental and comparison group were given a pre- and post-L2WAI. Both groups showed a statistically significant decrease in writing anxiety at the end of the treatment. The experimental group, which involved peer-to-peer feedback, decreased significantly more than the control group ($t = 2.77$, $p = .007$). Kurt and Atay (2007) attributed added gains in the peer-to-peer group to "social dimensions of peer feedback that enhanced the participants' attitudes towards writing" (p. 20).

Pae (2007) investigated the effect that four wiki-based writing assignments had on L2 writing anxiety. The study found no statistically significant means difference (MD) between pre/post analysis possibly indicating that a treatment should consist of more than four interventions for changes in L2 writing anxiety to be noticed. Noordin (2012) delivered a pre- and post-L2WAI to 42 intermediate L2 learners attending a TESL (Teaching English as a Second Language) class. Students were separated into a conventional group that completed assignments by hand and an experimental group that completed assignments through email. In every session, students wrote two entries: one entry on their own dialogue journal and one reply to their partner's entry. While marginal, descriptive analysis of mean score revealed students using email to deliver journal entries had a larger decrease (MD = .199, SD = .686) in writing anxiety than the conventional (pen and paper) group (MD = .007, SD = .735).)Another study found that "students were not particularly anxious about receiving negative feedback from their supervisors and seemed to take that as an opportunity to learn about the weaknesses of their writing" (Ho, 2016, p. 29). Collaborative writing was found as a means to alleviate L2 writing anxiety (Jiang, 2015). Jiang (2015) conducted an empirical study on alleviating career English writing anxiety and found that cooperative learning reduced L2 writing anxiety and increased writing competence.

Second language learning anxiety has been studied for decades, and a general consensus is higher performing students have less L2 English anxiety than their lower

performing counterparts (Aida, 1994; Horwitz, 2012; Hurd & Zia, 2010; Kim, 2009; Kim, 2002; Liu & Ni, 2015; Pae, 2007). A majority of studies have focused on speaking anxiety (Aida, 1994; Horwitz, 2012, Hurd & Zia, 2010; Kim, 2009), while others have investigated listening anxiety (Kim, 2002; Sin, 2004) and general fours skill-based anxiety (Pae, 2012). Fewer studies have exclusively investigated L2 writing anxiety (Pae, 2007). The researcher has found no previous study that looked at the influence blended learning and conventional learning environments have on L2 writing anxiety. Writing tasks involving online communication tools like online discussion boards may influence L2 writing anxiety differently than conventional pen-and-paper writing tasks. To accomplish research goals, this study asked the following questions:

## Research Questions

(1) How does blended vs. conventional writing contexts influence cognitive, somatic, and behavioral components of L2 English writing anxiety?
(2) How do changes in L2 English writing anxiety levels vary for high, medium, and low L2 proficiency students?

## Methodology

This is a quasi-experimental study that investigated the influence two forms of writing instruction (blended vs. conventional) have on L2 writing anxiety. In addition, this study also compared changes in L2 writing anxiety among high, medium, and low L2 proficiency students. While not formally embedded in the research questions, student perceptions of their anxiety were collected and analyzed in hopes of better understanding how blended and conventional writing instruction platforms influence student L2 writing anxiety.

### Participants

There were 75 students recruited through convenience sampling from four English communication classes (i.e., writing, reading, speaking, and listening): 36 males and 39 females. Participants were freshman English majors attending university in South Korea. Students' English proficiency ranged from A2 to B2 of the Common European Framework of Languages as determined by the Oxford Quick Placement English Level Test. One group of students constituted the blended learning group ($n = 40$, 18 male and 22 female) and completed writing tasks online through the Canvas LMS while the other participants constituted the conventional (pen and paper) group ($n = 35$, 18 male and 17 female) which completed assignments by hand. Students in the blended learning group were trained to use the Canvas LMS prior to beginning the course. Training included registering a Canvas account and creating an online profile. ANOVA on pre-survey results found no statistically significant difference in the 3 sub components (cognitive, somatic, and behavioral anxiety) and summative anxiety scores between groups.

Student proficiency was determined using the Oxford English Quick Placement Level Test (QPT), instructor developed speaking tests using an IELTS rubric, and class observations. The QPT has been used in previous research for separating students into high, medium, and low L2 proficiency groups (Suk-a-nake, Heaton, Chantrupanth & Rorex, 2003).

## Instruments

### Second Language Writing Anxiety Inventory: L2WAI

An adapted version of Cheng's (2004) L2WAI was administered. A high reliability with a Cronbach's coefficient of .91 was calculated for the L2WAI which has attracted a number of researchers to administer it for studies that investigated writing anxiety (Kurt & Atay, 2007; Noordin, 2012; Pae, 2007). The L2WAI consists of 22 items, 14 negatively worded and eight positively worded. Positively worded items are reversed and the results are added up. A higher score indicates more writing anxiety. Items 23 and 24 (see Appendix) were added to the original survey in order to investigate anxiety related to online writing anxiety. Three open ended items were added to the post-L2WAI for the purpose of gathering information on the learners' self-perception of their L2 writing anxiety during the 8-week treatment. In addition, students were asked to describe strategies they used (and would recommend) to overcome anxiety.

Results for summative anxiety scores for the 22 item L2WAI range between 22-110 points. Students who score above 65 points are considered to have high L2 writing anxiety, scores between 50-65 are moderate, and students who score below 50 points are considered to have low anxiety. Adjustments to this scale were made accordingly to fit a range between 24-120 points (i.e., summative anxiety score; high anxiety >70, moderate anxiety 55-70, and low anxiety: < 55) due to the two appended items that enquired towards computer-based writing anxiety.

The L2WAI was translated to Korean by an expert in SLA translation studies. A second expert in SLA performed a back translation and items revealing discrepancies were reviewed until a consensus in accuracy of meaning was confirmed. The reliability for the survey showed the Cronbach's coefficient was .92 for the pre-survey and .90 for the post-survey.

### Writing Tasks

Students completed five writing assignments in both the conventional pen and paper group and the blended learning group. Writing assignments were delivered over an 8-week period. The first part of the assignment cycle was dedicated to first drafts and the second part was spent on review and revisions. Students in both the conventional and blended learning groups received instructor and peer-delivered feedback. The conventional group spent 20 minutes during class time providing peer-to-peer oral feedback for each writing task, while students in the blended learning group provided feedback through online forums. Instructors in both groups spent 5-10 minutes

highlighting examples of good writing, however, only students in the conventional group explicitly engaged in peer-to-peer feedback during class.

To compliment peer-to-peer feedback, instructors in both groups used indirect feedback in the form of endnote comments. An endnote comment is the feedback given at the end of a composition. The instructors' endnote comments were provided online in the blended learning group and in-class in the conventional group. Peer-to-peer feedback in both groups included commenting on three areas: personal relevance to the topic, content, and clarity. Students were asked to comment on how the writing topic they were reviewing related to their lives. Connecting tasks to personal life contexts has been shown to increase task-value (Hulleman, Godes, Hendricks, & Harackiewicz, 2010). Secondly, students were asked to identify areas that required more explanation, or areas of interest which could be elaborated. Feedback that fostered additional writing in second drafts was encouraged because students who write more have shown greater improvement in writing accuracy over time (Bailey, 2016). The third step in peer-feedback asked students to identify accuracy errors in an attempt improve clarity. Below is an example of feedback from a student in the blended learning group:

> **[Personal Relevance Feedback]** I really liked your story about Japan. I went [to] Japan last year with my mom. It was [a] really good time. Let's go together sometime. **[Content Feedback]** I really like[d] [the] sentence about Osaka. I want to know more [about] what you did there. Can you tell me more? **[Clarity Feedback]** I don't understand how [you] traveled [to] Osaka. Did you fly or take a ferry?

Students in the blended learning group used forums to upload compositions and provide written feedback. Forums were delivered through the open source learning management system Canvas (www.canvas.instructure.com). The forum module in Canvas is an activity module where students and teachers can exchange ideas through online discussions. Forums allowed students to review one another's compositions online and discuss their writing in class

In the blended learning group, students uploaded a first draft to the Canvas LMS and then were required to reply to two other classmates' compositions. In addition to peer-to-peer feedback, the instructor in the blended learning group provided written corrective feedback through the Canvas Speedgrader © tool. Instructor feedback consisted of endnotes that praised the student, identified areas of weakness, and provided suggestions for improved writing. Below is an example of endnote feedback from both the blended learning and conventional learning context instructor:

[Blended Learning Context]

> I really enjoyed your discussion board post. I'm glad that you want to have such a memorable experience! I think you and Min-young can make such great memories together. Overall, your post is excellent. Try to remember to start sentences with capital letters. There are also a few minor grammar mistakes (e.g., article usage and missing

pronouns) but your writing is good. You also did a good job on your replies.

[Conventional Learning Context]
Your overall concept is a good one: unique yet topical. Your paragraph had problems with capitalization, and there was no closing sentence. My advice is to ask your groupmates to further peer-review your work before you send it to me. Remember to swap assignments so you can do the same for them.

**Data Analysis**

SPSS 20.0 © software was used to carry out calculations. Mean score comparison through descriptive statistics was used to show the average anxiety scores for individual items as well as the three sub components of somatic, cognitive, and behavioral anxiety. The summative anxiety score was found by adding each item from the L2WAI. Repeated measures ANOVA was conducted to indicate differences among the three anxiety sub components for students overall as well as the blended learning and conventional groups. A repeated measures ANCOVA was conducted on post-L2WAI scores to indicate changes in sub component anxiety scores within groups. MANCOVA on post L2WAI results was conducted to indicate statistically significant changes among the three anxiety sub components and summative anxiety scores between groups. Paired sample *t*-test was used to find statistically significant changes in sub components within groups. A Wilcoxon signed rank test on pre- and post-L2WAI scores identified individual items showing statistically significant changes between pre- and post-survey results within the blended and conventional learning groups. A final ANOVA test followed by was used to identify statistically significant difference in anxiety components between L2 proficiency groups. All ANOVA were followed by post-hoc Bonferroni tests. Qualitative data collected from the 3 open ended survey items was reviewed using conventional content analysis (Hsieh & Shannon, 2005).

## Results

A one-way repeated analysis of variance (ANOVA) was conducted on all participants from both the blended learning and conventional groups in order to evaluate the difference among the three anxiety sub components for pre-L2WAI scores. Results of the ANOVA indicated significant component effect: Wilk's Lambda = .541, $F (2, 72) = 30.537$, $p < .001$. Follow up pairwise comparison indicated that students from both groups reported cognitive anxiety (M = 2.846, SD = .607) significantly less than both somatic (M = 3.13, SD = .752, $p < .001$) and behavioral (M = 3.30, SD = .571, $p < .001$) anxiety. Differences between somatic and behavioral anxiety were not statistically significant. The pattern of behavioral anxiety being most statistically significant, followed by somatic, and then cognitive was echoed when evaluating the blended learning ($F = 16.314$, $p < .001$) and

conventional ($F$ = 14.797, $p$ < .001) groups separately.

**Blended Learning vs Conventional Learning Writing Environments: RQ 1**

A one-way repeated analysis of covariance (ANCOVA) was conducted on post-L2WAI scores to evaluate differences among the three anxiety sub components for the blended learning group using pre-L2WAI scores as covariates. Post-hoc Bonferroni pairwise comparison found statistically significant differences in the blended learning group between behavioral (M = 3.62, SD = .538) and somatic (M = 3.16, SD = .729) anxiety below the .001 level, and between behavioral and cognitive (M = 2.95, SD = .607) anxiety at the .001 level. A second one-way repeated ANCOVA was conducted for the conventional group and found statistically significant difference between cognitive (M = 3.04, SD = .693) and somatic (M = 3.39, SD = .788) anxiety below the .001 level. These finding show patterns in anxiety for each group changed in comparison to pre-L2WAI results.

A MANCOVA was conducted using the learning environment (i.e., blended vs. conventional) as the independent variable, the three sub components and summative anxiety score from the post-L2WAI as the dependent variables, and pre-survey sub component scores as covariates. The MANCOVA was necessary to account for pre-treatment differences in dependent variables between groups (i.e., mean scores of cognitive, somatic, behavioral, and summative anxiety scores). Results indicated a component effect: Wilk's Lambda = .854, $F$ (4, 66) = 2.822, $p$ = .032. Post-hoc Bonferroni pairwise comparison showed differences in behavioral anxiety between the blended learning group (M = 3.615, SD = 0.596) when compared to the conventional group (M = 3.269, SD = 0.537) with a .035 level of significance.

Table 2 shows paired *t*-test analysis for pre and post survey results of both groups. The greatest net difference among the three anxiety sub components and summative anxiety scores was found to be somatic anxiety for students in the conventional group (MD 0.32). Students in the conventional group showed statistically significant increases in cognitive, somatic, and summative anxiety scores. On the other hand, students in the blended learning group only showed significant increases in behavioral anxiety while showing no significant change in cognitive, somatic, or summative anxiety score.

**Table 1**
**Paired *t*-Test Analysis Between Pre and Post L2WAI Scores**

|  | Pre | | Post | | | |
|---|---|---|---|---|---|---|
|  | M | SD | M | SD | *t* | *P* |
| BL | | | | | | |
| Cognitive | 2.84 | .584 | 2.95 | .598 | 1.269 | .212 |
| Somatic | 3.19 | .789 | 3.16 | .729 | .194 | .847 |
| Behavioral | 3.38 | .587 | 3.62* | .596 | 2.181 | .035 |
| Summative | 76.63 | 14.13 | 79.18 | 12.45 | 1.294 | .203 |
| Conventional | | | | | | |

|  | Pre M | SD | Post M | SD | z | p |
|---|---|---|---|---|---|---|
| Cognitive | 2.86 | .639 | 3.04* | .693 | 2.683 | .011 |
| Somatic | 3.07 | .712 | 3.39** | .788 | 3.96 | .000 |
| Behavioral | 3.22 | .547 | 3.27 | .537 | .675 | .504 |
| Summative | 75.07 | 13.5 | 79.69** | 14.9 | 3.61 | .001 |

note: Blended Learning *n* = 40; Conventional *n* = 35

Table 2 shows statistically significant changes for individual survey items and the Appendix displays L2WAI items. Students in both groups showed statistically significant increases in four of the six items related to somatic anxiety, indicating this component was most sensitive to change.

**Table 2**
**Wilcoxon signed rank test results for individual Pre- Post-Survey Items**

|  | Blended Learning | | | | | | Conventional | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Pre M | SD | Post M | SD | z | p | Pre M | SD | Post M | SD | z | P |
| Somatic | | | | | | | | | | | | |
| Item 2 |  |  |  |  | - | - | 2.86 | 0.967 | 3.20* | 1.067 | 2.216 | 0.027 |
| Item 5 | 3.08 | 0.828 | 3.48** | 0.933 | 2.751 | 0.006 |  |  |  |  |  |  |
| Item 6 | 3.45 | 1.061 | 3.03** | 0.973 | 2.331 | 0.020 | 3.05 | 0.897 | 3.50* | 1.001 | 2.884 | 0.003 |
| Item 8 | 4.03 | 0.934 | 3.68* | 1.07 | 2.776 | 0.036 |  |  |  |  | - | - |
| Item 11 |  |  |  |  | - | - | 2.86 | 1.064 | 3.25* | 1.014 | 2.216 | 0.022 |
| Item 13 | 2.27 | 1.064 | 2.70* | 1.042 | 2.124 | 0.034 | 2.40 | 0.944 | 2.88* | 1.101 | 3.368 | 0.001 |
| Cognitive | | | | | | | | | | | | |
| Item 3 | 2.37 | 1.001 | 2.90** | 1.051 | 2.674 | 0.008 | 2.57 | 1.095 | 3.17* | 1.084 | 2.907 | 0.004 |
| Item 17 |  |  |  |  |  |  | 2.69 | 1.009 | 3.09* | 1.092 | 2.725 | 0.006 |

## L2 Proficiency and L2 Writing Anxiety: RQ2

Mean score comparisons for high, medium, and low L2 proficiency groups are displayed in Table 3. Due to separate instructors for the blended and conventional groups, small sample size, and confounding influences from outside English activities, no generalization can be made that a blended learning environment influenced L2 writing anxiety differently than conventional one, only that L2 anxiety was influenced within both. Because of this, all 75 participants were grouped together when comparing different L2 proficiency groups.

Increases in L2 writing anxiety were found in order from low, medium, to high L2

proficiency groups for the summative anxiety score and each anxiety sub component. For pre-L2WAI results among students overall, cognitive anxiety had the lowest mean score of 2.86 (SD = .669) while behavioral anxiety revealed the highest mean score of 3.42 (SD = .727). Among the three sub components, high proficiency students reported the highest anxiety score of 3.76 (SD = .569) for behavioral anxiety. Although students showed increases between pre- and post-L2WAI scores, they were not statistically significant.

**Table 3**
**Comparison of L2 Writing Anxiety between High, Medium, and Low L2 Proficiency Groups**

| Pre L2WAI | Summative score | | Cognitive | | Somatic | | Behavioral | | *N* |
|---|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD | M | SD | |
| High | 83.3 | 12.18 | 3.08 | 0.546 | 3.37 | 0.564 | 3.76 | 0.569 | 22 |
| Med | 78.01 | 15.33 | 2.92 | 0.684 | 3.25 | 0.763 | 3.38 | 0.697 | 33 |
| Low | 67.71 | 15.41 | 2.54 | 0.672 | 2.71 | 0.794 | 3.08 | 0.784 | 20 |
| Total | 76.82 | 15.52 | 2.86 | 0.669 | 3.14 | 0.758 | 3.42 | 0.727 | 75 |
| Post L2WAI | Summative score | | Cognitive | | Somatic | | Behavioral | | *N* |
| | M | SD | M | SD | M | SD | M | SD | |
| High | 83.81 | 11.55 | 3.23 | 0.562 | 3.4 | 0.6954 | 3.56 | 0.63 | 22 |
| Med | 79.24 | 13.97 | 2.95 | 0.652 | 3.27 | 0.671 | 3.5 | 0.588 | 33 |
| Low | 73.20 | 14.96 | 2.77 | 0.865 | 2.98 | 0.865 | 3.19 | 0.738 | 20 |
| Total | 79.00 | 14.01 | 2.98 | 0.654 | 3.23 | 0.745 | 3.44 | 0.655 | 75 |

note: summative anxiety score; high anxiety >70, moderate anxiety 55-70, and low anxiety: < 55

A one way ANOVA was conducted to evaluate differences between proficiency groups. Results of the ANOVA indicated proficiency level has a significant effect: Wilk's Lambda = .775, *F* (8, 164) = 2.783, *p* = .007. Univariate analysis shows statistically significant difference among proficiency levels for cognitive (F = 4.699, *p* = .012), somatic (*F* = 6.081, *p* = .003), behavioral (*F* = 6.315, *p* = .003), and summative (*F* = 7.597, *p* = .001) anxiety scores. Table 4 shows results of a post-hoc Bonferroni pairwise comparison for sub components and summative anxiety scores revealing statistically significant differences between proficiency groups.

**Table 4**
**Pairwise Comparison of Anxiety for High, Medium, and Low L2 Proficiency Levels**

| | MD | Std. Error | *p* | Lower bound | Upper bound |
|---|---|---|---|---|---|
| Cognitive | | | | | |
| Low vs High | 0.538 | .180 | .011* | .052 | 1.025 |

| | | | | | |
|---|---|---|---|---|---|
| Somatic | | | | | |
| Low vs Med | 0.538 | 0.180 | 0.016* | .030 | 1.046 |
| Low vs High | 0.656 | 0.201 | 0.005** | 0.113 | 1.200 |
| Behavioral | | | | | |
| Low vs High | 0.681 | 0.193 | 0.002** | 0.160 | 0.1.201 |
| Summative | | | | | |
| Low vs High | 15.6 | 4.057 | 0.001** | 5.68 | 25.50 |
| Low vs Med | 10.3 | 3.790 | 0.024 | 1.05 | 19.56 |

The greatest difference in L2 writing anxiety was found in the summative anxiety scores between high and low L2 proficiency groups ($p = .001$). Lesser significance was found between medium and low L2 proficient groups' summative scores ($p = .024$), and no statistically significant difference was found between high and medium L2 proficiency groups. Results from ANOVA analysis shows positive directionality between L2 proficiency and L2 writing anxiety, in other words students at higher L2 proficiency levels reported to have higher levels of L2 writing anxiety. The positive relation with L2 proficiency and L2 writing anxiety was supported with a simple linear regression between students' self-ported L2 proficiency and L2 writing anxiety which showed a positive correlation ($r = .418$, $p < .001$, $n = 75$).

## Discussion

This study investigated the influence of blended learning and conventional learning writing contexts on the cognitive, somatic, and behavioral components as well as summative scores of L2 English writing anxiety. Differences between pre- and post-L2WAI results displayed in Table 1 show evidence of changes in L2 writing anxiety among students in both the blended learning and conventional groups. Furthermore, the changes that occurred between pre-and post-L2WAI results differed between groups. In addition, this study also investigated how changes in L2 writing anxiety vary among L2 proficiency groups. Students from both the conventional and blended learning contexts were placed together in high, medium, and low L2 proficiency groups because having different instructors, outside exposure to English, and a a small sample size limited any generalizations we could make with regards to blended and conventional learning contexts.

The increase in behavioral anxiety for students in the blended learning group and increase in somatic anxiety for students in the conventional group show that exposure to writing tasks did not have a mitigating effect on L2 writing anxiety, and therefore do not reflect the decrease in speaking anxiety, accredited to exposure to speaking activities, found in Docan-Morgan and Schmidt's (2012) study. The lack of statistically significant change in the summative anxiety score for the blended learning group found in this study align with findings from Pae's (2007) research which also reported no changes in summative anxiety scores after a series of four online wiki writing assignments were

administered to 17 upper-intermediate students (i.e., A2-B1 Common European Framework of English Proficiency). This was not true however for students in the conventional group who showed a statistically significant increase in summative anxiety scores. However, Pae's (2007) smaller sample size of graduate students and inclusion of only upper-intermediate students limits comparisons to the participants in the present study which included 75 freshmen ranging from low, intermediate, and upper intermediate L2 proficiency levels.

The lack of change in the summative anxiety score among students in the blended learning group and the increase in the summative anxiety score for students in the conventional group also contradict results found by Kurt and Atay (2007) whose study showed decreases in L2 writing anxiety for both their experimental and control group. Student demographics between Kurt and Atay's (2007) research and students in the present one may have contributed to the conflicting results found between the two studies. Kurt and Atay's (2007) participants were Turkish graduate EFL teacher-trainees while the present study's participants were South Korean Freshmen English Majors.

Further discrepancies between the present study and previous research can be found when reviewing Noordin's (2012) study that found, through pre- post-L2WAI survey analysis, participants in the experimental group (completed writing assignments through email) and a conventional group (completed writing assignments by hand) both showed decreases in L2 writing anxiety. Like Pae's (2007) participants, students were intermediate L2 proficiency learners, and like Kurt and Atay's (2007) study, students were graduate level English majors. One commonality found in many L2 writing anxiety studies is a relatively high summative anxiety score greater than 65. This was true for Kurt and Atay's (2007) study which revealed a mean summative score of 69.45, Pae's (2007) students with a mean score of 71.17 (adjusted for the 22 item L2WAI scale), Zhang's (2011) students scored on average 66.49, and students in this study with an average of 72.42 (adjusted for the 22 item L2WAI scale). Only Noordin's (2012) group of Malaysian undergraduate students reported a moderate summative anxiety mean score of 61.12.

When viewing individual L2WAI items, the blended and conventional learning groups appear to be sensitive to time limitations with respect to L2 writing. Both groups of students showed a statistically significant increase in item 13 (I often feel panic when I write English composition in a limited amount of time). When asked about stress due to time constraints, students in the blended learning group commonly expressed relief in regards to no time pressure since writing could be completed outside the classroom, with one student stating, "I like doing the discussion board posts because I can write them anytime I want as long as I finish them before the due date.", and another student stating, "I like Canvas [LMS] because I can complete my homework when I want."

Previous research in L2 writing anxiety shows a negative relationship with L2 proficiency and L2 writing anxiety (Cheng, 2002; 2004; Kurt & Atay, 2007; Lee & Krashen, 2002; Noordin, 2012; Pae, 2007). This trend of negative relation between proficiency and anxiety extends beyond not only L2 writing anxiety but also foreign language anxiety in general (Aida, 1994; Horwitz, 2012; Hurd & Zia, 2010; Kim, 2009; Kim, 2002; Liu & Ni, 2015; Sin, 2004).

The contradicting results with previous research found in this study when investigating the relationship between L2 proficiency and L2 writing anxiety reveal

diversity in how language learners perceive the English writing process. Upper intermediate students at the graduate level with more years of experience with English writing have shown less L2 writing anxiety (Ho, 2016) than freshman English majors at the beginning of their university careers (Zhang, 2011). The diversity in how L2 writing anxiety influences learners at different ages, experience levels, and different geological locations makes the subject of L2 writing anxiety worthy of future research.

Findings show that L2 writing anxiety and L2 proficiency create a latent curve. Students at lower levels have less experience with exposure to L2 writing and therefore may not dedicate as much energy to worrying about L2 writing as their more proficient counterparts. As students begin to experience more L2 writing, as shown with both groups in this study, they increase in anxiety. The greatest increases in anxiety were among low and medium L2 proficiency groups, while high proficiency students showed little change.

A number of interesting patterns emerged when reviewing responses from the three open ended survey items. The first item asked students to describe their own experiences with anxiety within their respective learning context (blended vs. conventional) over the course of the 8-week treatment. Responses from both groups were similar with the majority of students referencing at least one episode of anxiety related to English during the course.

A pattern of performance anxiety among students in both blended and conventional groups emerged after reviewing responses from item 25 (Please describe your experiences with L2 writing anxiety in this class). Multiple responses referenced a lack of ability compared to others in the class. This pattern was recognized through responses like, "I feel worried I am not as good at writing as others." Responses referencing evaluation-related anxiety was a pattern that also emerged from students in both groups with responses like, "I worry my score will be low.", and, "I'm worried because my grade is not as good as other students."

There was one important difference between responses from conventional and blended learning groups. A few students in the blended learning group specifically addressed anxiety stemming from the LMS system and technology in general. Three students in the blended learning group reported difficulties with navigating the course website, with one student responding, "I am not use to doing homework like this [Canvas LMS] and the class website is sometimes bothersome" and another stating, "I don't like using the Internet for English study. I just want to talk." Perhaps added value towards computer aided language learning should be established prior to beginning a blended learning course. Providing students with a better understanding of difficulties related to classroom technology (e.g., navigating an LMS) could help them with their expectations of successfully completing blended learning activities. Most students reported positive perceptions towards the blended learning context through statements like, "I think Canvas is good for my writing." and "I am getting better at writing because of Canvas."

Responses for items 26 (What strategies did you use to overcome L2 writing anxiety in this class?) and 27 (What strategies would you recommend to someone who has L2 writing anxiety?) were analyzed together because both provided insight into coping strategies students can utilize to overcome anxiety. Affective strategies (e.g., try to relax, take a break, and breathe deeply) were most common, followed by social strategies (e.g., talk to a friend, talk to your family, and ask someone for help). In general, students appeared knowledgeable of stress-relieving methods in spite of having relatively

high anxiety scores. This suggests that while students are aware of social and affective coping strategies, they do not effectively administer them. Or perhaps social and affective strategies are insufficient in mitigating L2 writing anxiety and other more cognitive approaches are necessary such as keeping an online writing log or managing a blog.

## Conclusion

This study has examined the influence blended vs. conventional learning environments have on L2 writing anxiety. Writing anxiety for high, medium, and low L2 proficiency groups was also compared. Findings from this paper have pedagogical implications for EFL instructors in both blended learning and conventional L2 English classes. Because behavioral anxiety was initially rated highest for both groups and showed statistically significant increase within the blended learning group, this sub component is recognized as most crucial to address when attempting to decrease L2 writing anxiety. Perhaps this can be accomplished by facilitating the physical steps in the writing process such as accessing task web-pages, organizing writing places and times, and archiving compositions.

Findings from student responses to the open-ended survey items found that using technology can be an added source of anxiety. This raises an ethical question which asks whether or not mandating students to complete L2 writing tasks online through course websites is creating unfair advantages for students who are more comfortable working in such virtual learning environments. Future studies may wish to investigate the compounding influence computer and Internet anxiety have with L2 writing anxiety.

Fear of evaluation was reported high for both groups so instructors should be aware that "evaluation of writing in school situations can place a great deal of pressure on student writers and hurt their progress" (Lee & Krashen, 2002, p. 540). Therefore, it is recommended students be given an opportunity to write without being graded. Students tend to perceive writing tasks as quizzes or tests. As a result, they are concerned about poor evaluations of their writing ability. Therefore, second language acquisition instructors should develop strategies to alleviate anxiety, help alleviate anxiety during test time, and be mindful of L2 writing anxiety during class writing activities. One of the challenges for English teachers is to "create a relaxing environment for the learners, in which writing anxiety is alleviated and they feel enthusiastic about the writing and experience" (Jiang, 2015, p. 174).

One reason students feel high anxiety is related to their lack of confidence. Encouraging students to give themselves positive self-talk about their writing performance, as well as kind words of inspiration provided by the instructor are recommended. Students in the blended learning group commonly praised the instructor's use of Canvas messenger to provide written words of motivation. With one student stating, "I am happy to read the teacher's kind words. She inspires me to work harder." Therefore, it is highly recommended that L2 writing instructors in blended and conventional learning environments spend time personalizing their written feedback in order to emotionally connect with their students.

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# Appendix

**Second Language Writing Anxiety Instrument (L2 WAI)**

Somatic

2      I feel my heart pounding when I write English in a limited amount of time.

6      My mind often goes blank when I start to work on an English composition.

8      I tremble or perspire when I write English composition.

11     My thoughts become jumbled when I write English composition under time constraint.

13     I often feel panic when I write English composition in a limited amount of time.

19     I usually feel my whole body rigid and tense when I have to write an English composition.

Cognitive

1      While writing in English, I'm not nervous at all (R)

3      While writing English composition, I feel worried and uneasy if I know my writing will be evaluated.

4      I'm afraid I will make a grammar mistake in my English writing.

7      I don't worry that my English composition are a lot worse than others'. (R)

9      If my English composition is to be evaluated, I would worry about getting a very poor grade.

14     I'm afraid other students would deride my English composition if they read it.

15      I usually feel comfortable and at ease when writing in English online. (R)

17      I don't worry about what other people will think about my English composition (R)

20      I don't worry at all about what other people would think of my English composition. (R)

21      I'm not afraid at all that my English composition would be rated as very poor. (R)

23*     I feel worried when I work on a computer for my English composition.

24*     I feel worried about typing speed when I work on a computer for English writing in a limited time.

Behavioral

5       I do my best to avoid situations in which I have to write in English.

10      I do my best to avoid situations in which I have to write in English.

12      Unless I have no choice, I would not use English to write compositions.

16      I would do my best to excuse myself if asked to write English composition.

18      I usually seek every possible chance to write English composition outside of class. (R)

22      Whenever possible, I would use English to write compositions. (R)

Open-ended Items

25      Please describe your experiences with L2 writing anxiety in this class.

26      What strategies did you use to overcome L2 writing anxiety in this class?

27      What strategies would you recommend to someone who has L2 writing anxiety?

note: Items 23 and 24 were added to the original L2WAI in order to investigate computer-related anxiety.