A Study of University Students' Anxiety Differences Between Traditional and Online Writing Classes

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Abstract

This study compared 49 university students (juniors) in a traditional writing class (TW) with 49 students in an online writing class (OW) at a university in Taiwan in order to find out whether different levels of anxiety existed between the classes. The findings indicated the TW and OW classes significantly differed (.05 level) in worries of stress. The traditional writing class had higher anxiety level than the online writing class both in overall and individual categories. The findings suggested that the computerized grading system was doing a better job than the traditional class in reducing students' anxiety. The online writing class had several advantages that might have contributed to the lower anxiety as measured: (1) instant feedback from the computer program; (2) repeated revisions and multiple submissions; (3) readily available access to internet dictionary and reference while writing; and (4) voluntary online writing class with free tuition and software.

Keywords: writing anxiety, second language writing, online writing

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The computer scoring writing system, automated essay grading system, or e-rater, is a new tool that is designed to help English language teaching. Language teachers have high expectations for this software in hopes of reducing their grading workload and altering their teaching strategies. Research has shown second language classroom anxiety evokes from communication apprehension, fear of evaluation, and test anxiety. When an automated essay grading system is employed, differences may occur in students' anxiety, assumedly from general worries, class performance, stress from the teacher, peer pressure, and perceived language difficulties from the students.

Criterion and MyAccess are currently two writing websites available in Taiwan. For example, Criterion is a kind of online English writing practice website that does not require the installment of any software. Instead, it is a paid website that offers multiple opportunities of writing practice and submission. In less than 30 seconds after submission, the system pops out the scores rating from 1 to 6 and a diagnostically analytic report which includes items of grammar, usage, mechanics, style, and organization & development.

The researcher obtained a two-year grant from the Ministry of Education, R.O.C. for the Teaching Excellency Project and developed an online writing project using Criterion. This paper attempts to explore the different anxiety levels between a traditional writing class and an online writing class.

Literature Review

Many researchers have explored the concept of anxiety related to second language acquisition. Scovel (1978) defined anxiety as "a state of apprehension, a vague fear" (p.131). Brown (1994) referred anxiety to the feeling of "uneasiness, frustration, self-doubt, apprehension, or worry" (p.141). Lightbrown & Spada (2006) defined anxiety as "feelings of worry, nervousness, and stress that many students experience when learning a second language" (p.61). Learners who experience anxiety may feel great tension, nervousness, difficulty in concentrating, tend to avoid class, and postpone the homework (Bailey, Daley, & Onwuegbuzie, 1999; Horwitz, Horwitz, & Cope, 1986).

Gardener and MacIntyre (1993) deemed anxiety was a negative factor on students' foreign language performance. Young's study (1991) showed that high level of anxiety in reading could negatively affect language learners' performance. Chen (2007) found oral performance in-class activities provoke most foreign language anxiety, while Ely (1986) concluded anxious students were less likely to voluntarily answer questions and participate in oral classroom activities. Subasi's (2010) study indicated that there were significantly negative relationships between anxiety and three self-ratings which were the Self-Rating Can-Do Scale, the Self-Rating for the Current Level of Study, and the Self-Rating Perception of English speaking ability. Subasi concluded from his analysis of interview data that the main sources of the students' anxiety in oral practice came from personal reasons, teachers' manners, teaching procedures, and previous experience.

Most listening anxiety scales were borrowed or revised from general anxiety scales such as Horwitz, Horwitz, and Cope's (1986) *Foreign Language Classroom Anxiety Scale* (FLCAS) which was not specifically designed for testing listening anxiety until Kim (2000) conducted an anxiety study in Korea. His study concluded that anxiety interfered with second language listening and that tension and worry about English listening and lack of self-confidence in listening were the main reasons causing anxiety. Elkhafaifi's (2005) study found a significantly negative correlation (r = -0.70) existed between foreign language anxiety and the listening task performance and the overall performance related to listening comprehension.

Gunge and Tayler (1989) found that the more focused students were on form in their writing, the more writing apprehension was present; while the more focus they were on content in their writing, the less writing apprehension was present. N.S. Mat Daud, Mat Daud, and Abu Kassim (2005) called into question whether anxiety is the cause or the effect of poor writing performance. Their findings showed that the students in their study suffered anxiety as a result of the lack of writing skills, and that the better students experienced less anxiety than the weaker ones.

The conclusions of Mat Daud et al. (2005) inspired the researcher to look into Horwitz, Horwitz, and Cope's (1986) *Foreign Language Classroom Anxiety Scale* (FLCAS) and considered the need to add a section of learners' self-perceived language difficulties, or problem area. The findings of the present study showed language difficulties were significantly high anxiety sources and well co-related to the other sources, such as general worries, class performance, stress from the teacher, and peer pressure.

One of the most commonly used measurement instrument of second language writing anxiety is the *Daly-Miller Writing Apprehension Test* (Daly & Miller, 1975) which included three components: the Low Self-confidence, the Aversiveness of Writing and Evaluation Apprehension, and Writing Self-concept. McKain (1991) argued that the Writing Apprehension Test is "a measure of writing self-esteem just as much as a measure of writing

apprehension" (Cheng, 2004b, p.315). Gkonou (2011) employed the *Writing Apprehension Test* to measure writing anxiety and found writing anxiety loaded primarily on items related to attitudes toward writing in English, followed by self-derogation for the process and fear of negative evaluation by the teacher and peers.

Hu (2008) translated Horwitz, Horwitz, and Cope's (1986) *Foreign Language Classroom Anxiety Scale* (FLCAS) into Chinese for research (Appendix 1). FLCAS is a 33-item Likert scale self-report questionnaire which includes three categories: communication apprehension, fear of negative evaluation, and general feelings of anxiety. Hu classified 33 questions as 1) communication apprehension: Q1, 3, 4, 9, 13, 14, 18, 20, 24, 27, 29, 33; 2) fear of negative evaluation: Q2, 7, 8, 15, 19, 21, 23, 31; and 3) general feelings of anxiety: Q5, 6, 10, 11, 12, 16, 17, 22, 25, 26, 28, 30, 32. Hu's study (2008) concluded that gender was not a significant factor influencing classroom anxiety which was consistent with Spielberger's study (1986) but contrary to Machida's (2001) that indicated gender difference was statistically significant. Cheng (2002) reported that female students in her study experienced significantly higher levels of L2 writing anxiety than male students, but no significant difference in anxiety level was found among freshmen, sophomores, and juniors, although L2 writing anxiety appeared to rise linearly with increased time of study. In addition, Cheng (2002) also pointed out that L2 writing anxiety is distinct from L1 writing anxiety, and the relationship between these two is worth exploring. Hsu (2009) found male students had higher test anxiety and fear of negative evaluation than female students did, while female students had higher communication apprehension anxiety.

Of 33 items, at least 8 questions, Q2, 5, 8, 11, 18, 22, 28, and 32, in Hu's Anxiety Scale (Appendix 1) adversely described the problems which could cause misinterpretation when explaining the results; when the positive value of correlation coefficient became negative. For example, Q2 stated, "I don't worry about making mistakes in the English classes," and Q5 stated, "Taking more English courses is not a problem for me." [These two questions should be logically written as: I worry about making mistakes in the English classes and taking more English courses is a problem for me.] If a student checked both totally agree, the value 5 in the statistics meant the student had the highest anxiety levels on these items. The researcher tested this theory by reversely coding the Q10 and Q11 in the questionnaire of this study (Appendix 2) and found the correlation coefficient held consistent, but the negative values were changed to positive values. The original results could possibly be explained that female students neither worried about making mistakes in class nor worried about taking more classes. However, the positive correlation coefficient value led to the interpretation that females worried in these regards. The rest of the question items are similar to the problem type of Q2 and Q5, while Q11 is of another type of problem.

The statement of Q11 in Hu's study that stated, "I don't understand why some people in the English class are upset and distracted," was ambiguous in determining whether those who checked *totally agree* had the highest anxiety or the least. The researcher recognized this problem at the first glance. However, the researcher chose to still put it in the questionnaire and waited for the statistic program to exercise its power to exclude it. The correlation within group verified the researcher's suspicion. Q3 in the questionnaire of this study was excluded because it was not a significant factor in the category of general worries on the ANOVA test.

Salazar-Liu (2003) also used FLCAS to conduct a longitudinal study and adopted Daly's taxonomy: communication apprehension, fear of evaluation, and test anxiety. She found students (N=54; 17 males and 37 females) remain unchanged in communication apprehension and fear of evaluation in four years of their undergraduate study. However, the testing anxiety did change. Salazar-Liu's explanations of the results stated that senior students of Applied Foreign languages Department taking required courses such as public

speaking and business presentation and participating activities such as defending their senior theses might be the causes that students' communication apprehension and fear of evaluation remained unchanged high.

Young (1991) considered language anxiety arouse from 1) personal and interpersonal anxiety; 2) learner beliefs about language learning; 3) instructor beliefs about language teaching; 4) instructor-learner interactions; 5) classroom procedures; and 6) language testing. Cheng (2004a) revealed student writers' anxiety coming from sources such as 1) instructional practices; 2) personal beliefs about writing and learning to write; 3) self-perceptions, and 4) interpersonal threats.

Cheng (2004b) distributed open-ended questionnaires to EFL students in Taiwan for soliciting information to construct her *Second Language Writing Anxiety Inventory* (SLWAI), which included three subscales: somatic anxiety, avoidance behavior, and cognitive anxiety. Obviously, she had heavily consulted the FLCAS because the adverse description of anxiety situations stayed similarly. Consequently, she had to reverse the coding just as the researcher had mentioned in the first place.

Horwitz, Horwitz, and Cope's (1986) Foreign Language Classroom Anxiety Scale (FLCAS) has been widely used for 26 years. It's time for a change, making the descriptions right for computation and classifying those questions into categories. Therefore, the researcher identified five anxiety sources which were: General Worries; Class performance; Peer Pressure; Stress from the Teacher; and Language Difficulties, and also reversed the description of several questions (Appendix 2).

Lightbrown and Spada (2006) argued that anxiety could be temporary and context-specific, instead of a permanent feature of a learner's personality. More recent studies are more likely to treat anxiety to be dynamic and dependent on particular situations and circumstances. "…for example, a student who feels anxious when giving an oral presentation in front of the whole class but not when interacting with peers in group-work" (Lightbrown & Spada, 2006, p.61). "Because students are focused on both the task at hand and their reaction to it… [they] will not learn as quickly as relaxed students" (MacIntyre, 1995, p.96).

Piniel (2006) compared the anxiety differences of sixty-one ninth graders in learning two foreign languages at the same time in Hungary by using the *Foreign Language Classroom Anxiety Scale* (FLCAS) of Horwitz, Horwitz, and Cope (1991) and the *State Trait Anxiety Inventory* (STAI) (Sipos, Sipos, & Spielberger, 1994). The results showed that learners studying two foreign languages simultaneously significantly developed different levels of foreign language classroom anxiety. Piniel filtered out those having high anxiety scores on the STAI and interviewed a total of five students who had low trait anxiety scores but high different FLCA scores in two languages. Piniel attributed the classroom anxiety to the teacher's role that was especially highlighted as a potentially key factor in inducing students' foreign language anxiety. However, Piniel reminded readers to interpret the results with caution because

> these are relevant in the particular setting the research was conducted in, namely the environment of a school in Hungary where students are obliged to take two foreign language courses simultaneously, where oral tests in all subjects are common, and where the 'excellent' grade is the goal to aim at. As seen from literature, other sources of anxiety in the classroom do exist, thus this study is best viewed as one that simply raises awareness of the importance of the instructor's role in view of learners' foreign language anxiety. (p.18)

Anxiety had been thought a negative factor in language learning for a long time. However, it has been argued that not all anxiety is bad and sometimes a certain amount of tension can have a positive effect and even facilitate learning. For instance, Spielmann and Radnofsky (2001) found tension (which they chose to use this term because they considered it was more neutral) was perceived as both beneficial and detrimental and it was also related to the learner's social interactions inside and outside the classroom. In addition, MacIntyre and Gardner (1991) attempted to manipulate the anxiety level of beginning learners by asking them to think about and report either positive or negative events from their own experience in order to direct their attention to focus on writing an essay, instead of the language task. Sixteen participants were randomly assigned to write an anxiety essay while fourteen subjects wrote a relaxed essay before taking the *State Anxiety Scale* (Spielberger, 1983), the *Can Do Scale* (Clark, 1981), and the other measures. MacIntyre and Gardner (1991) considered their Focused Essay technique successfully altered the self-perceptions of the language learners. Those writing a relaxed essay showed more confidence with language skills than those writing an anxiety essay on the *Can Do Scale*. In addition, those writing a relaxed essay described more about successful experiences in speaking and understanding skills while those writing an anxiety essay almost exclusively portrayed speaking events. Kleinman (1977) concluded in his study that mild anxiety could be beneficial.

Research Questions

This study is intended to add to the previous body of research by answering the following questions:
1. Does the difference of the anxiety levels exist between the traditional writing class (TW) and the online writing class (OW)?
2. What do the students in the TW and the OW classes worry about?
3. Are the participants' anxiety levels related to their gender differences, family income, English proficiency, having taken language proficiency test(s), and their self-identified major problems in English writing?

Participants

The total participants in this study were 98 students including 49 junior level students from a traditional class in the Department of Modern Languages of a technical university in Taiwan and 49 students from two online writing classes from a variety of departments at the same university.

The online writing class actually consisted of two classes, a total of 90 students, who were using the Criterion website. However, the researcher was only able to collected 49 valid questionnaires for the study.

Among the ninety-eight students of the two writing classes, twenty-seven participants (27.6%) are male, while seventy-one (72.4%) are female. Thirty-five (35.7%) subjects indicated their family income was NT$300,000 (about US$10,000) or below, twenty-eight (28.6%) were between NT$300,001 and 500,000 dollars, eight (8.2%) were between NT$500,001 and 700,000 dollars, eight (8.2%) were between NT$700,001 and 900,000 dollars, four (4.1%) were between NT$900,001 and 1,100,000 dollars, three (3.1%) were between NT$1,100,001 and 1,500,000 dollars, while four (4.1%) said their family income was more than NT$1,500,000 dollars a year.

Ten students (10.2%) considered their English to be very poor, fifty-eight (59.2%) were poor, twenty-eight (28.6%) were good, while two (2.0%) were very good. Twenty-three subjects (23.5%) had never taken any English proficiency test, while seventy-five (76.5%) had taken at least one English proficiency test. Five (5.1%) respondents deemed tenses were their major problem in English writing, eight (8.2%) recognized structure and style, seventeen (17.3%) claimed to be spelling, twenty-four (24.5%) said grammar, nineteen (19.4%) chose two of the mentioned items, ten (10.2%) identified three of them, while eleven (11.2%) thought all of the four problem areas were their major problems in English writing. The original questionnaire designed for students to identify their major problem in English writing provided only four options. However, quite a few respondents had chosen two, three, even all the items. Therefore, the coding was re-assigned as follows: 1). tenses; 2). structure and style; 3). spelling; 4). grammar; 5). two of the four items; 6). three of the four; 7). all the four. For more detailed information of the TW and the OW classes, please refer to Table 7.

When the TW class was compared with the OW class, both had almost the same number of male and female participants, 13 male vs. 14 male and 36 female vs. 35 female. The average family income of the OW class was slightly higher than the TW class (Table 7), and the OW class perceived its English competence a bit better than its counterpart, whereas more students of the TW class had taken English proficiency tests.

Data Collection Procedure and Data Analysis

The researcher adapted Hu's (2008) foreign language classroom anxiety questionnaire, Chinese version, to develop a 31-item questionnaire in order not to confuse students with English statement. Besides, the statement must be specifically written to associate with the writing class in this case because Hu's questionnaire was related to listening classes.

The questionnaires (Appendix 2) of Chinese versions were respectively given to the traditional writing class and the online writing class. The collected data were coded with the Excel program and analyzed with the Statisca program, a statistic computer application. In order to examine whether the factors, such as gender, income, English proficiency, tests taken, and the problem area are related to participants' anxiety, a one-way ANOVA was performed. In addition, the independent-samples t Test was employed to identify the relationship between the TW and the OW classes.

Table 1

Correlation Table of the General Worries Category for the TW Class

(*N*=49)		GW	Q1	Q2	Q5	Q7	Q8
General worries	Pearson corre.	1	.746**	.765**	.825**	.649**	.662**
	Sig. (two tailed)		.000	.000	.000	.000	.000
Q1	Pearson corre.	.746**	1	.691**	.502**	.301*	.534**
	Sig. (two tailed)	.000		.000	.000	.036	.000
Q2	Pearson corre.	.765**	.691**	1	.558**	.459**	.490**
	Sig. (two tailed)	.000	.000		.000	.001	.000
Q5	Pearson corre.	.825**	.502**	.558**	1	.593**	.557**
	Sig. (two tailed)	.000	.000	.000		.000	.000
Q7	Pearson corre.	.649**	.301*	.459**	.593**	1	.309*
	Sig. (two tailed)	.000	.036	.001	.000		.030
Q8	Pearson corre.	.662**	.534**	.490**	.557**	.309*	1
	Sig. (two tailed)	.000	.000	.000	.000	.030	

* Indicates significant at .05 level.   ** Indicates significant at .01 level.
Note: This is an example correlation table of the category of General Worries for the traditional writing class. Because Q3, 4, and 6 are not significantly correlated, they are excluded from the category and not discussed as the findings.

Table 2

One-Way ANOVA Test Results: Q1, 2, 5, 7, and 8 are Factors of GW in the TW

		SS	*df*	*MS*	*F*	Sig.
Q1	Between Gs.	12.992	13	.999	4.991	.000**
	Within Gs.	7.008	35	.200		
	Sum	20.000	48			
Q2	Between Gs.	17.778	13	1.368	5.320	.000**
	Within Gs.	8.998	35	.257		
	Sum	26.776	48			
Q5	Between Gs.	17.468	13	1.344	7.200	.000**
	Within Gs.	6.532	35	.187		
	Sum	24.000	48			
Q7	Between Gs.	17.682	13	1.360	2.689	.010**
	Within Gs.	17.706	35	.506		
	Sum	35.388	48			
Q8	Between Gs.	16.502	13	1.269	3.383	.002**
	Within Gs.	13.131	35	.375		
	Sum	29.633	48			

** Indicates significant at .01 level.

In order to ensure the internal consistency reliability, four steps were undertaken: First, the average of every question in the same category was computed and served as the category's raw data respectively labeled with General Worries, Class Performance, Stress from Teacher, Peer Pressure, and Language Competence; Second, those questions that were

not significantly correlated to the other questions in the same group at the .05 level or better were excluded from the category. For example, Question 3, 4, and 6 of the TW class were not significantly correlated to the other questions in the same category on the Pearson Correlation test. Therefore, the category of General Worries in the traditional class included only 5 questions, Q1, 2, 5, 7, and 8 (Table 1), while there were four questions discussed in the General Worries group for the online writing class, Q1, 4, 6, and 8. Third, a one-way ANOVA was further employed to examine whether the question items remaining in the group were the factors of the category (Table 2). Fourth, All the other intra-and-inter categories of anxiety both in the TW and OW classes were examined with the same procedure of Pearson correlation examination and found significant at least at the .05 level or better. However, in order to avoid a lengthy presentation, only Table 3 and 4 which are the tables of inter-category correlation are shown in the study.

Table 3

Inter-Category Correlation of the Traditional Writing Class

(*N*=49)		General Worries	Class performance	Tense from teacher	Peer pressure	Language competence
General worries	Pearson correlation	1	.803**	.694**	.622**	.704**
	Sig. (two tailed)		.000	.000	.000	.000
Class performance	Pearson correlation	.803**	1	.854**	.740**	.775**
	Sig. (two tailed)	.000		.000	.000	.000
Teacher	Pearson correlation	.694**	.854**	1	.767**	.729**
	Sig. (two tailed)	.000	.000		.000	.000
Peer pressure	Pearson correlation	.622**	.740**	.767**	1	.667**
	Sig. (two tailed)	.000	.000	.000		.000
Lang difficulties	Pearson correlation	.704**	.775**	.729**	.667**	1
	Sig. (two tailed)	.000	.000	.000	.000	

** Indicates significant at .01 level.   * Indicates significant at .05 level.

Table 4

Inter-Category Correlation of the Online Writing Class

(*N*=49)		General worries	Class performance	Stress from teacher	Peer pressure	Language competence
General worries	Pearson correlation	1	.808**	.601**	.422**	.510**
	Sig. (two tailed)		.000	.000	.003	.000
Class performance	Pearson correlation	.808**	1	.711**	.458**	.572**
	Sig. (two tailed)	.000		.000	.001	.000
Teacher	Pearson correlation	.601**	.711**	1	.621**	.587**
	Sig. (two tailed)	.000	.000		.000	.000
Peer pressure	Pearson correlation	.422**	.458**	.621**	1	.715**
	Sig. (two tailed)	.003	.001	.000		.000
Lang difficulties	Pearson correlation	.510**	.572**	.587**	.715**	1
	Sig. (two tailed)	.000	.000	.000	.000	

* Indicates significant at .05 level.   ** Indicates significant at .01 level.
Note: The categories of computer use and purpose of attending class are not significantly correlated with the other categories for the online writing class and therefore excluded.

Findings and Discussions

Question 1

Do the differences of the anxiety levels exist between the traditional writing class and the voluntary online writing class?

The results on Table 5 show the different anxiety levels between the two classes, but they are not statistically significant, when the independent-sample t test was performed. The results shown on Table 6 indicate the mean differences (the first 31 questions vs. the first 31 questions) of variables between the TW and the OW classes are not significant. However, when the irrelevant question items were removed (for example, Q3, Q4, and Q6 in the general worries category) and the whole category as a variable of anxiety source, only the anxiety difference of the stress from teachers between the TW and OW classes appeared to be significant at the .05 level (Table 9). That is, the TW class had significantly higher level of anxiety from their teachers than the OW class did. The possible explanation of this result was that because the Criterion grading system shouldered the responsibilities of rating compositions, the students felt less threatened from their teacher.

Additional findings include: First, on average, the anxiety level of the traditional writing class was higher than the online writing class either on the overall mean (2.719 vs. 2.499 on Table 5) or on every individual category. A possible reason for this result was that the traditional class was a required and credit granted course, whereas the online writing class was not. Besides, the participants in the OW class wrote composition on the computer and they had accesses to online dictionary, the help with spelling check, and the writing ideas from the internet.

Second, the biggest difference of anxiety levels appeared in the category of stress from teacher (2.735 vs. 2.44). The most possible reason might be because the computer took the responsibility of grading compositions. Thus, the OW students felt less threatened from the teacher.

Table 5

Mean Anxiety Levels by Categories

	TW (*N*)	*M*	*SD*	OW (*N*)	*M*	*SD*	Difference
General worries	49	2.698	.578	49	2.622	.550	.076
Class performance	49	2.529	.598	49	2.359	.546	.231
Stress from teacher	49	2.735	.618	49	2.44	.609	.295
Peer pressure	49	2.827	.566	49	2.63	.627	.197
Language difficulties	49	2.862	.631	49	2.74	.565	.122
Total	49	2.719	.501	49	2.499	.363	.22
Computer use				49	2.143	.637	
purpose				49	2.26	.646	

Third, individually, the most anxious students in the TW and the OW classes both reached the same anxiety level, 3.93 by average (Table 8), while the least anxious student was in the TW class had an average of 1.36 on all 31 questions (the total is 4). The most anxious students, one male in the TW class and one female in the OW class, shared the characteristics that they were from a family with an income less than NT$300,000; perceived their English

proficiency to be very bad; had never taken any kind of English proficiency tests; and both identified all the four problem areas (tenses, structure and style, spelling, and grammar) to be their difficulties in English writing.

Fourth, looking at individual questions, the largest anxiety differences were found on Q20, Q11, Q12, and Q22 (both Q12 and Q22 were ranked third), and all the values were positive which means the TW class had much more anxiety than the counterpart on these items (Table 7). These anxiety situations are: Q20, I get nervous when I don't understand every word the writing teacher says.; Q11, It would bother me very much to take more writing classes; Q12, I get nervous when the writing teacher asks me to write what I haven't prepared in advance; and Q22, I get upset when I don't understand what the writing teacher is correcting. These anxiety situations meant the traditional class most worried about the stress from the teacher and class performance when compared with the online class.

Table 6

Independent-Samples t Test (31 questions compared)

TW & OW	Levene's test for Equality of Variances		T test for the Equality of Means							
									95% Confidence interval of the Difference	
	F	Sig.	*t*	*df*	Sig. (2 tailed)	*M* Diff.	*SE* Diff.	lower	upper
Eql vari. assumed	.656	.420	1.83	96	.070	.17555	.09575	-.01452	.36562
Eql vari. not assumed			1.83	94.7	.070	.17555	.09575	-.01455	.36565

Table 7

Descriptive Statistics: the TW Class vs. the OW Class

	Traditional Writing (*N*=49)			Online Writing (*N*=49)			Difference
	N	*M*	*SD*	*N*	*M*	*SD*	
Gender (male 1, female 2)	49	1.73	.446	49	1.71	.456	0.02
Family income	43	2.21	1.424	47	2.51	1.864	- 0.3
English proficiency	49	2.14	.540	49	2.31	.742	- 0.17
Having taken proficiency test	49	1.82	.391	49	1.71	.456	0.11
General worries	49	2.605	.438	49	2.566	.448	0.039
Q1	49	3.00	.645	49	2.84	.624	0.16
Q2	49	2.67	.747	49	2.63	.727	0.04
Q3	49	2.16	.688	49	2.31	.713	- 0.15
Q4	49	2.31	.796	49	2.39	.786	- 0.08
Q5	49	2.57	.707	49	2.31	.683	0.26
Q6	49	2.86	.677	49	2.78	.848	0.08
Q7	49	2.63	.859	49	2.73	.836	- 0.1
Q8	49	2.61	.786	49	2.49	.820	0.12
Class performance	49	2.57	.560	49	2.335	.4821	0.235
Q9	49	2.73	.811	49	2.43	.707	0.3
Q10	49	2.82	.601	49	2.57	.612	0.25
Q11	49	2.39	.759	49	2.04	.706	0.35
Q12	49	2.69	.713	49	2.35	.855	0.34
Q13	49	2.51	.711	49	2.35	.694	0.16
Q14	49	2.57	.677	49	2.41	.705	0.16
Q15	49	2.51	.820	49	2.41	.734	0.1
Q16	49	2.73	.811	49	2.82	.808	- 0.09
Q17	49	2.65	.751	49	2.57	.764	0.08
Q18	49	2.14	.707	49	2.10	.684	0.04
Q19	49	2.55	.792	49	2.37	.698	0.18
Tense from teacher	49	2.735	6.17	49	2.36	.546	0.375
Q20	49	2.84	.850	49	2.45	.792	0.39
Q21	49	2.86	.764	49	2.55	.738	0.31
Q22	49	2.69	.713	49	2.35	.779	0.34
Q23	49	2.55	.679	49	2.41	.788	0.14
Peer pressure	49	2.827	.566	49	2.63	.627	0.197
Q24	49	2.57	.764	49	2.43	.736	0.14
Q25	49	2.96	.676	49	2.76	.830	0.2
Q26	49	3.08	.571	49	2.80	.790	0.28
Q27	49	2.69	.713	49	2.55	.867	0.14
Language difficulties	49	2.862	.631	49	2.74	.565	0.122
Q28	49	2.94	.747	49	2.71	.707	0.23
Q29	49	2.82	.667	49	2.73	.758	0.09
Q30	49	2.88	.754	49	2.69	.742	0.19
Q31	49	2.82	.782	49	2.84	.825	- 0.02
Computer use				49	2.143	.6374	
Q32				49	2.04	.763	
Q33				49	2.24	.693	
Purpose of attending the class				49	2.63	.40753	
Q34				49	3.39	.571	
Q35				49	2.63	.755	
Q36				49	2.43	.842	
Q37				49	2.08	.759	

Table 8

The Anxiety Levels by Individuals in a Descending Order

	TW class (*N*=49)		OW class (*N*=49)	
	N of Questions	*M*	*N* of Questions	*M*
Student 1	31	3.93	31	3.93
Student 2	31	3.91	31	3.62
Student 3	31	3.59	31	3.26
Student 4	31	3.53	31	3.22
Student 5	31	3.42	31	3.11
Student 6	31	3.28	31	2.98
Student 7	31	3.27	31	2.96
Student 8	31	3.20	31	2.82
Student 9	31	3.07	31	2.81
Student 10	31	3.02	31	2.78
Student 11	31	3.00	31	2.77
Student 12	31	2.98	31	2.74
Students 13~44 are omitted.	.	.	.	.
Student 45	31	2.07	31	2.03
Student 46	31	1.99	31	2.01
Student 47	31	1.87	31	2.00
Student 48	31	1.36	31	1.62
Student 49			31	1.54

Question 2

What do the TW and the OW classes worry about?

According to Table 5, the TW class has the highest anxiety level in language difficulties, followed by peer pressure, stress from the teacher, general worries, and class performance, while language difficulties, peer pressure, and general worries were the top three categories among the five categories for the OW class. This was followed by stress from the teacher and class performance. In other words, by average, both classes most worried about their own language difficulties and peer pressure and least worried about the class performance. The stress from the teacher was apparently reduced when the automated grading system was used.

Among 31 questions, the highest anxiety levels for the TW class came from Q26, Q1, and Q25 (Table 7) that meant students' self-confidence was rather insufficient as well as fear of peer competition. On the other hand, the OW class most worried writing in class (Q1), not knowing the structure and style (Q31), and being asked to compose sentences in class (Q16). It indicated that in addition to the insufficient self-confidence similar to the TW participants (Q1), the OW students also worried the writing structure and style (Q1 and Q31 were both on the first place) because they were afraid that the automated grading system had set a certain format for scoring. As for Q16, it was ranked as high as the third most anxious situation which was quite different from the TW class that rated it twelfth. This finding echoed Piniel's study (2006). Besides, the finding was the second piece of evidence indicating that the OW students lacked self-confidence to perform in class in front of everybody even though their self-perceived English proficiency was higher than the students' of the TW class (Table 7).

Table 9

Independent-Samples t Test Results of Stress from Teacher

Tense from teacher	Levene's test for Equality of Variances		T test for the Equality of Means					95% Confidence interval of the Difference	
	F	Sig.	*t*	*df*	Sig. (2 tailed)	*M* Diff.	*SE* Diff.	lower	upper
Eql vari. assumed	.020	.889	2.388	96	.019*	.29592	.12392	.04994	.54190
Eql vari. not assumed			2.388	95.983	.019*	.29592	.12392	.04994	.54190

* Indicates significant at .05 level.

Question 3

Are the participants' anxiety levels related to their gender differences, family income, English proficiency, having taken a language proficiency test, and their major problems in English writing?

  In order to answer this question, the one-way ANOVA was performed to find out if these variables were factors of the participants' anxiety, and the Pearson correlation was used to determine whether the variables were correlated to students' anxiety levels.

  The one-way ANOVA test results on Table 10 indicate that the perceived English competence and having taken English proficiency test are factors of the students' anxiety at the significant .01 level, while the problem area is significant at the .05 level. The Pearson Correlation test results shown on Table 11 indicate that none of the gender, family income, or problem area correlated to the students' anxiety reaches the statistically significant level. However, the participants' self-perceived English competence and having taken language proficiency test are significantly correlated to students' anxiety at the .01 level, and the values are negative. In sum, the better the participants think their English competence is, the less anxiety they have. Also, those who have taken at least an English proficiency test have less anxiety than those who haven't taken any one. This is due to the fact that the university requires students to pass a certain level of English proficiency test before graduation.

Table 10

One-way ANOVA Factor Analysis of Gender, Family Income, English Competence, Test Taken, and Problem Area

		SS	*df*	*MS*	*F*	Sig.
Gender	Inter-groups	.014	1	.014	.058	.811
	Intra-group	23.098	96	.241		
	total	23.112	97			
Income	Inter-groups	1.142	6	.190	.794	.577
	Intra-group	19.902	83	.240		
	total	21.044	89			
Competence	Inter-groups	4.067	3	1.356	6.690	.000**
	Intra-group	19.045	94	.203		
	total	23.112	97			
Test taken	Inter-groups	2.941	1	2.941	13.998	.000**
	Intra-group	20.170	96	.210		
	total	23.112	97			
Problem area	Inter-groups	3.333	6	.556	2.475	.029*
	Intra-group	19.529	87	.224		
	total	22.863	93			

** Indicates significant at .01 level.   * Indicates significant at .05 level.

Table 11

Pearson Correlation of Anxiety Levels and Gender, Family Income, English Competence, Test Taken, and Problem Area

	N	Pearson Correlation	Sig. (two tailed)
Gender	98	-.025	.811
Family income	90	.061	.570
English competence	98	-.415(**)	.000**
Test Taken	98	-.357(**)	.000**
Problem area	94	.157	.130

** Indicates significant at .01 level.

Conclusion and Suggestions

This study identified five sources of second language writing anxiety from the traditional writing class which are, in an anxiety descending order: learner perceived language difficulties; peer pressure; stress from the teacher; general worries; and class performance. When the automated grading system was used to assist writing in class, the anxiety level of stress from the teacher was changed from the third place to the fourth and was statistically significant at the .05 level. The overall anxiety level and those of the five sources in the traditional writing class are all higher than of the online writing class (Table 5).

To respond the first research question of this study, the anxiety difference did exist between the TW class and the OW class even though only the anxiety difference of stress from their teachers reached the statistically significant level ($p < .05$).

Regarding the second research question, according to Table 5, students of the TW and OW classes worried most about language difficulties and peer pressure, while stress from the teacher was the third anxiety source in the TW class and the fourth in the OW class. Among 31 questions, the top three questions the TW class most worried about were Q26, Q1, and

Q25 that indicated students' self-confidence was rather insufficient and feared of peer competition. On the other hand, Q1, Q31, and Q16 were the top three anxiety sources for the OW class. It indicated that in addition to the insufficient self-confidence similar to the TW students (Q1), the OW students also worried the writing structure and style (Q1 and Q31 were both on the first place) because they were afraid that the automated grading system had set certain format for scoring. As for Q16, it was ranked as high as the third most anxious situation which was quite different from the TW class that rated it twelfth. The result seemed to be caused by different teachers' teaching style. Whether those students taking a computer-assisted course are much more afraid of class performance in front of everybody than their counterparts is an interesting issue for exploration.

The research results on Table 11 indicate that the participants' self-perceived English competence and having taken language proficiency test are significantly correlated to students' anxiety at the .01 level. In other words, the better the participants thought their English competence was, the less anxiety they had. Also, those who had taken at least an English proficiency test had less anxiety than those who hadn't taken one.

A suggestion for future research is to compare an online writing class with a traditional writing class, taught by the same teacher. In this way, the possible reasons of low anxiety in the online writing class can be determined.

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Appendix A: Hu's (2008) Foreign Language Classroom Anxiety Questionnaire

1. I never feel quite sure of myself when I am speaking in my foreign language class.
2. I don't worry about making mistakes in language class.
3. I tremble when I know that I'm going to be called on in language class.
4. It frightens me when I don't understand what the teacher is saying in the foreign language.
5. It wouldn't bother me at all to take more foreign language classes.
6. During language class, I find myself thinking about things that have nothing to do with the course.
7. I keep thinking that the other students are better at languages than I am.
8. I am usually at ease during tests in my language class.
9. I start to panic when I have to speak without preparation in language class.
10. I worry about the consequences of failing my foreign language class.
11. I don't understand why some people get so upset over foreign language classes.
12. In language class, I can get so nervous I forget things I know.
13. It embarrasses me to volunteer answers in my language class.
14. I would not be nervous speaking the foreign language with native speakers.
15. I get upset when I don't understand what the teacher is correcting.
16. Even if I am well prepared for language class, I feel anxious about it.
17. I often feel like not going to my language class.
18. I feel confident when I speak in foreign language class.
19. I am afraid that my language teacher is ready to correct every mistake I make.
20. I can feel my heart pounding when I'm going to be called on in language class.
21. The more I study for a language test, the more confused I get.
22. I don't feel pressure to prepare very well for language class.
23. I always feel that the other students speak the foreign language better than I do.
24. I feel very self-conscious about speaking the foreign language in front of other students.
25. Language class moves so quickly I worry about getting left behind.
26. I feel more tense and nervous in my language class than in my other classes.
27. I get nervous and confused when I am speaking in my language class.
28. When I'm on my way to language class, I feel very sure and relaxed.
29. I get nervous when I don't understand every word the language teacher says.
30. I feel overwhelmed by the number of rules you have to learn to speak a foreign language.
31. I am afraid that the other students will laugh at me when I speak the foreign language.
32. I would probably feel comfortable around native speakers of the foreign language.
33. I get nervous when the language teacher asks questions which I haven't prepared in advance.

Note: The English version is from Horwitz, E. K. & Horwitz, M. & Cope, J. (1986).
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Appendix B: Anxiety Questionnaire for the Traditional Writing Class

This questionnaire is to explore your anxiety level when participating in the traditional writing class or the online writing class. Please circle the number that best describes your feeling from the following options: (4) strongly agree, (3) agree, (2) disagree, and (1) strongly disagree.

a. I'm taking the class of   1.□ traditional writing   2.□ online writing.
b. Gender: 1.□ male   2.□ female
c. Year of study: (freshman, sophomore, junior, or senior) _____
d. Family income:
    1. □ under 300,000   2. □ 300,001~500,000   3. □ 500,001~700,000   4. □ 700,001~900,000
    5. □ 900,001~1,100,000   6.□ 1,100,001~1,500,000   7. □ above 1,500,000   8.others _____
c. Compared with my peers, my English proficiency is
    1. □ very bad   2. □ not good   3. □ good   4. □ very good
d. I have taken English proficiency test.   1. □ No   2. □ Yes
e. The biggest problem of my writing is on
    1. □ spelling   2. □ grammar   3. □ tenses   4. □ structure and style   5. □ all of the above

General worries   Please circle the number.
1. I never feel quite sure of myself when I am writing in class.   4   3   2   1
2. I worry about the consequences of failing this online writing class.   4   3   2   1
3. I don't understand why some people get so upset over online
    writing classes.   4   3   2   1
4. In language classes, I can get so nervous I forget things I know.   4   3   2   1
5. During language class, I find myself thinking about things that
    have nothing to do with the course.   4   3   2   1
6. I would be nervous writing to native speakers.   4   3   2   1
7. The more I study for a language test, the more confused I get.   4   3   2   1
8. I feel not confident when I practice English writing at home.   4   3   2   1

Class performance
9. I am usually at unease during tests in my online writing class.   4   3   2   1
10. I worry about making mistakes in the online writing class.   4   3   2   1
11. It would bother me very much to take more online writing classes.   4   3   2   1
12. I get nervous when the online writing teacher asks me to write what
     I haven't prepared in advance.   4   3   2   1
13. I feel pressure to prepare very well for the online writing class.   4   3   2   1
14. Even if I am well prepared for the online writing class, I feel anxious about it.4   3   2   1
15. I often feel like not going to my online writing class.   4   3   2   1
16. I can feel my heart pounding when I'm going to be called on to
     make sentences in the online writing class.   4   3   2   1
17. The online writing class moves so quickly I worry about getting left behind. 4   3   2   1
18. I feel more tense and nervous in my online writing class than in my
     other classes.   4   3   2   1
19. When I'm on my way to the online writing class, I feel very uneasy
     and unsure.   4   3   2   1

Stress from the teacher
20. I get nervous when I don't understand every word the writing teacher says.   4   3   2   1
21. I tremble when I know that I'm going to be called on in writing class.   4   3   2   1
22. I get upset when I don't understand what the writing teacher is correcting.   4   3   2   1
23. I am afraid that my writing teacher is ready to correct every mistake I make.   4   3   2   1

Peer pressure
24. I am afraid that the other students will laugh at my writing.   4   3   2   1
25. I keep thinking that the other students are better at languages than I am.   4   3   2   1
26. I always feel that the other students write better than I do.   4   3   2   1
27. I feel very self-conscious about my articles being read by other students.   4   3   2   1

Language difficulties
28. I start to panic when I misspell in online writing.   4   3   2   1
29. I feel overwhelmed by the number of rules I have to learn to write essays.   4   3   2   1
30. It embarrasses me to write in class when I make mistakes of tenses.   4   3   2   1
31. I get nervous and confused when I write without any concept of
    structure and style in mind   .   4   3   2   1

For those who participate in the online writing class only:

Computer use
32. I panic when I don't know how to use the computer.   4   3   2   1
33. I feel nervous when I don't understand the English writing instruction
    on the screen.   4   3   2   1

Purpose
34. I take this course in order to enhance my writing competence.   4   3   2   1
35. I take this course in order to pass the General English Proficiency Tests.   4   3   2   1
36. I take this course in order to obtain the free textbook and the writing account. 4   3   2   1
37. I take this course in order to accompany friends of mine.   4   3   2   1