Writing Anxiety Among EFL Saudi Students in Science Colleges and Departments at a Saudi University

Bandar Saleh Aljafen

Indiana University of Pennsylvania

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WRITING ANXIETY AMONG EFL SAUDI STUDENTS IN SCIENCE COLLEGES AND DEPARTMENTS AT A SAUDI UNIVERSITY

A Thesis
Submitted to the School of Graduate Studies and Research
in Partial Fulfillment of the
Requirements for the Degree
Master of Arts

Bandar Saleh Aljafen
Indiana University of Pennsylvania
May 2013
Indiana University of Pennsylvania
School of Graduate Studies and Research
Department of English

We hereby approve the thesis of

Bandar Saleh Aljafen

Candidate for the degree of Master of Arts

____________________________________
David I. Hanauer, Ph.D.
Professor of English, Advisor

____________________________________
Sharon K. Deckert, Ph.D.
Associate Professor of English

____________________________________
Gloria Park, Ph.D.
Associate Professor of English

ACCEPTED

____________________________________
Timothy P. Mack, Ph.D.
Dean
School of Graduate Studies and Research
This study on English writing anxiety was conducted to answer questions that were constantly repeated by students and instructors in the English as a Foreign Language (EFL) science departments at Qassim University in Saudi Arabia. These questions are: 1) Do Saudi EFL students experience anxiety in their academic writing in the science colleges (preparatory year, engineering, and pharmacy)? 2) Do preparatory year students (beginner students) experience more anxiety when writing in English than do engineering and pharmacy students? and 3) Where do these problems come from? I quantitatively examined the seriousness of the problem and the sources of writing anxiety. The participants, 296 Saudi university students, filled out the English Writing Apprehension/Attitude Test (EWAT) scale survey. The participants were chosen from three science colleges: preparatory year, pharmacy, and engineering.

The findings of this research showed that, first, the three groups share almost the same moderate feeling of English writing anxiety. By comparison, the engineering students were somewhat higher anxiety than the preparatory year students, while the least anxious students were the pharmacy majors. The last research question, an open-ended question, received varied answers, according to the students' personal experiences. The weakness of their past English education was the first and overwhelming reason they gave for their writing anxiety; their lack of confidence in writing was the second, and the last one was the evaluation.
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This thesis is also dedicated to my wonderful family in Saudi Arabia. I would like to thank my mother, Luluah, for her sincere prayers and support during my learning journey. I will never forget her loving care. I thank and honor my dear father for his emotional, financial, and spiritual support. My father has always inspired me with his priceless assistance. I extend my gratitude and affection to my beloved wife, Dalal, for her unconditional patience and sacrifice throughout my studies. She was and is standing next to me in good times and bad, always encouraging and supporting me. My thanks also go to my adorable children, Terky and Asail. Thank you, Terky and Asail, for your love and understanding.
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CHAPTER 1
INTRODUCTION

Writing is considered an important tool for academic success. To achieve their highest level of writing ability, English as a Second Language (e.g. India) and English as a Foreign Language (e.g. Saudi Arabia) (ESL/EFL) learners need a low-anxiety environment (Latif, 2007; Salem, 2007). Students vary in writing anxiety from a high level to low, depending upon their own past and present educational experiences and self-esteem. Several research studies have examined Second Language (SL) writing anxiety in different contexts and found that writing apprehension negatively affects students in distinct ways (Cheng, Horwitz & Schallert, 1999; Cheng, 2004; Daud, Daud & Abu Kassim, 2005; Al-Ahmad, 2003; Latif, 2007; Salem, 2007; Erkan & Saban, 2010; Ismail, Elias, Albakri, Perumal & Muthusamy, 2010; Ucgun, 2011). The results of the research studies described in the literature review, combined with the relative lack of English writing anxiety studies conducted on EFL learners, and the absence of studies in Saudi Arabia, where English is becoming the adopted language in the science classroom, convinced me to explore writing anxiety and the sources of writing apprehension in the ESL/EFL setting of my home country of Saudi Arabia.

High School System Prior College Level

The English program in Saudi high schools is designed to be an extension of English in the intermediate and elementary levels. Although English in high school should be more concentrated, the classes actually follow the same formal instruction with teachers who are native speakers of Arabic. English is rarely used outside the classroom, and natural interactions in the target language are rare. According to the Ministry of Education in Saudi Arabia (www.mohe.gov.sa), the goal of writing in English is considered achieved when the student is
able to communicate by producing correct grammar and proper written organization. Furthermore, the motivation for most students to learn is low, because they still hold the notion that the English language is not important for them, at least at this moment.

English class normally begins with the teacher writing a grammatical rule on the blackboard, and then asking the students to learn it by heart and apply what they have learned in the activity book. It could be characterized as a grammar translation method. The language generally used in the classroom is Arabic. The English skills of reading, writing, listening, and speaking are usually not addressed properly. For example, writing is learned by memorizing several passages to pass the exam. Evaluation focuses on spelling and grammatical errors, with little attention to the idea. As a high school teacher, motivating students to be innovative in writing is a challenge for several reasons, one at the top being the students' previous educational habits.

As a former public school teacher and then a teaching assistant at Qassim University, I believe high school students have real difficulty in communicating in written and spoken English. They always complain about their weakness in English. To solve this problem and many others related to English proficiency, the preparatory year was added to the program at Qassim University.

The preparatory year is designed to bridge the gap between students’ high school English education and the level of proficiency needed for the university's academic programs that are taught completely in English. Preparatory-year English classes are taught mostly by native English speakers, except for the one hour per semester of Arabic and Islamic studies, which are taught in Arabic. The few Arab instructors who teach the preparatory year are not allowed to speak Arabic on campus. The imperative to speak in English is so rigorous that some students
withdraw from the preparatory year because they cannot make the leap from their weak public-school education to the higher level of English required at the university.

**Personal Experience as a teacher at Qassim University**

As a teacher in the science colleges, I found that the students were still not ready to express themselves academically in English; they needed to work on skills to help them write and speak effectively. Therefore, I began by revisiting simple rules that had been taught in their public school education. During the revision, some students complained about the teaching methodology in intermediate and high school, and the fact that evaluation was based on grammar and spelling, as if the idea behind the writing was trivial. Other students believed that their writing had remained weak because in high school they had not been aware of the importance that the English language would play in their academic pursuits. In both cases, and in many others, writing anxiety was implied through expressions such as “difficulty in organization,” “methods of evaluation,” and “feeling confusion while writing.” From these friendly discussions, I assumed that the students had feelings of anxiety about how to manage a piece of writing, and that this could negatively influence their ability to write. The huge gap between the way they were taught writing in their public school education and the seriousness and necessity of writing English at the college level could be expected to cause writing apprehension.

Since I taught the preparatory year for a semester, I also assumed that these students experienced more writing anxiety than the experienced students in the pharmacy and engineering colleges. I held this assumption because the preparatory-year students were freshmen with low skills and little experience in using English as a means of communication. I assumed they would need time to adjust to the new academic standards for college-level students. These speculations
from my personal experience triggered my curiosity to learn more about writing anxiety among the students at Qassim University who are required to use English.

**Statement of the Problem**

Although the English language is taught from the age of ten in Saudi Arabia, many students still need much more time to develop their English writing skills before actively using them in college. This could explain why Saudi science students undergo a preparatory year of English and computer literacy before entering most science colleges and departments at Qassim University.

English writing can be problematic, because at the time EFL students graduate from high school their writing proficiency does not match the university requirement for proficient written communication. Students need to become familiar with different writing styles and the important linguistic knowledge of the English language that they may never have learned in their previous education. The lack of sufficient English language proficiency can shake their self-confidence, leading to writing apprehension.

The need for additional composition courses, along with other English language skills, jumps considerably from high school to college, since English is the compulsory language between students and instructors from day one in the university's science colleges. Because of this pedagogy, students may encounter some sort of anxiety that could hinder their learning English writing.

To date, writing anxiety has been examined from two perspectives: that of the native speaker and that of the non-native speaker. Although many studies have been conducted on native speakers (Burgoon & Hale, 1983; Daly, 1977; Bannister, 1992; Selfe, 1981; Bloom, 1980; Faigley, Daly & Witte, 1981), and on SL/FL (Cheng, Horwitz & Schallert, 1999; Cheng, 2004;
Daud, Daud & Abu Kassim, 2005; Al-Ahmad, 2003; Latif, 2007; Salem, 2007; Erkan & Saban, 2010; Ismail, Elias, Albakri, Perumal & Muthusamy, 2010; Ucgun, 2011), no study has been conducted on writing anxiety in Saudi Arabian college-level students, leaving insight into that telling context undiscovered.

To sum up, writing anxiety as a special problem for ESL/EFL students needs to be examined. To help L2 students develop their English writing ability and quality, teachers may be able to create an environment that is almost anxiety free. This study attempts to discover the sources of writing apprehension that may be commonly shared in the ESL/EFL community that may benefit future studies.

**Significance of the Study**

The present study is considered unique because, up to my knowledge, it is the first to investigate writing anxiety in the Saudi Arabian context. Among the reviewed literature articles, only a few concentrated on writing in the ESL setting. This research also compares the sources of writing apprehension in groups of students from different colleges and departments. Writing anxiety not only affects achievement, it can also affect self-esteem.

In this study, the English Writing Apprehension/Attitude Test (EWAT) was carefully chosen because, first, it has been used extensively in other studies, and second, its simple negative and positive statements offer five levels of agreement to choose from. I added one final, open-ended question to answer the third research inquiry about the sources of student writing anxiety from their personal background and education.

My hope in conducting this study is that the findings and the ramifications will be beneficial for future researchers to build upon, since English writing anxiety at the college level in the Kingdom of Saudi Arabia has not been previously researched. This study has also provided
a way for Saudi students to speak up and identify the sources of writing apprehension that may affected them, which is important for this study and future research.

**Research Questions**

The research questions for this study are:

1. Do Saudi EFL students experience anxiety in their academic writing in the science colleges (preparatory year, engineering, and pharmacy)?

   Many studies conducted in different ESL contexts that have shown that L1 and L2 students have some anxiety when writing in English. Their results led me to hypothesize that students in my study would report high writing anxiety. The level of English skills required in order to perform well in their college academic science programs is far beyond that which they learned in high school.

   Hypothesis 1: It was predicted that EFL science students who are in their preparatory year or majoring in the engineering or pharmacy colleges at Qassim University would experience high anxiety when writing in English.

2. Do preparatory year students (beginner students) experience more anxiety when writing in English than do engineering and pharmacy students?

   I expected that the preparatory year students would experience more writing apprehension than the two other groups because: (a) most preparatory year students are freshmen, who normally need time to adapt to the higher academic standards of college, (b) these students are required to register for a variety of specialized and non-specialized courses, some of which might be non-preferred subjects for them, (c) they are new to this concentration on the English language as the language of written and oral communication, and finally (d) they are
new to the intensity of being evaluated through their performance in English as the only means of written communication.

Hypothesis 2: It was predicted that preparatory students in their first year at Qassim University would be more anxious when writing in English than students in the engineering or pharmacy colleges.

3. Where do these problems come from?

I set out to discover the real sources of anxiety in the Saudi EFL science classroom. First-hand information on this question had not been gathered by previous research conducted in the Saudi context.

**Thesis Chapters**

In the paragraphs below, I outline the design of each chapter of this study. Chapter One introduces the study, describes the current situation, and explains the Saudi student context. It also presents the problem, the importance of the study, the research questions, and the hypotheses.

Chapter Two is designed to support the study by reviewing the theoretical structure developed from past research related to this study. The chapter briefly discusses anxiety in its different aspects and how it influences students negatively in their English learning. It concentrates on the writing skill as arousing apprehension in ESL and science majors. It also deals with sources of writing anxiety among the L2 learners in various contexts and backgrounds. Finally, the science writing concludes this chapter.

Chapter Three is where the research methodology and procedure of the current study are described, including data collection and location. It also describes the participants and the tool
that is used in this study. It concludes by mentioning some of the limitations that restrict this study.

Chapter Four presents the findings of the quantitative research. In this study, the level of English writing anxiety will be addressed among the three groups. Then, the Mean, Standard Deviation, and the correlation will compare and contrast the results of the study in detail. Finally, the sources of writing anxiety will be explored to help for future researches.

Chapter Five summarizes the findings of this study. Then, the implications and the discussion of the limitations will be addressed. Finally, the need for future research will conclude this chapter.
CHAPTER 2
REVIEW OF THE LITERATURE

Introduction

Chapter 2 discusses the literature and research on anxiety and its aspects, which can hinder writing proficiency among science students and faculty in academia. The chapter begins with an introduction to SL writing by reviewing some key articles that were conducted in ESL/EFL settings, particularly in the Arab world. Then, it goes on to seek the common sources of anxiety that could affect writing ability. It continues by reviewing articles about writing anxiety and the sources of writing apprehension, after which it examines science writing practices in order to explore the difficulties and problems in English writing among learners. Finally, the chapter reviews the common language scales that have been widely used among educators, including writing anxiety scales.

Studies of Anxiety in L2 Writing

McLeod (1987) believed that writing consisted of a combination of emotional and cognitive activity. He defined anxiety in writing as “generally understood to mean negative, anxious feelings that disrupt some part of the writing process” (p. 427). Thompson (1980) gave a similar definition to writing anxiety, as “fear of the writing process that outweighs the projected gain from ability to write” (p. 121).

Writing anxiety, or writing apprehension, according to John Daly (1975a), is considered an important topic for understanding the correlation between writing anxiety and human characteristics. Writing anxiety was discovered to be a different phenomenon than anxiety. Daly and Miller (1975a) developed an initial understanding of the effects of writing anxiety on
learning a foreign language by creating the Writing Apprehension Test (WAT), a tool that has been widely used by many researchers to measure writing anxiety in English language learners.

Most writing anxiety research has examined native speakers of English. The research concluded that writing anxiety was common among native speakers of English. For example, Daly (1978) had examined the negative impact of a high level of writing anxiety on performance, and found that those who experienced low anxiety tended to be successful in the writing test. This test was run on more than 2500 students at a midwestern university. Moreover, Dally and Miller (1975b) indicated that apprehensive writers tended to be less successful and less willing to sign up for future, advanced writing courses. Another study (Matthews, 2001) conducted on college native speakers using the WAT proved that a non-threatening teaching approach helped to reduce writing anxiety among the participants.

According to Raimes (1991), it was obvious that the task of writing was a very challenging activity to many ESL students. Additionally, Al-Ahmad (2003) argued that writing anxiety was a challenging experience for both L1 and L2 learners, and consequently it negatively affected their writing practices. For SL learners, it was shown to be even more challenging, since the language was systematically different from their native language (Jones, 1985; Gungle & Taylor, 1989; Masny & Foxall, 1992; Cornwell & McKay, 1999; and Al-Ahmad, 2003). Al-Ahmad (2003) concluded his dissertation by saying “All the remarks of researchers in ESL/EFL field indicated that writing apprehension is a real problem facing ESL/EFL students’ apprehension, and something should be done to reduce students’ apprehension” (p. 33). The following paragraphs describe the research dealing with the SL/FL writing setting.

Cheng et al. (1999) endeavored to examine the empirical and systematical constructs of second language classroom anxiety and second language writing anxiety in relation to second
language speaking and writing achievement. They adopted two scales: FLCAS for SL classroom anxiety and SLWAT for second language writing anxiety. The study was recruited to examine English majors at four universities in Taiwan. In terms of reliability, the FLCAS and SLWAT scales were both proven completely reliable. The findings supported Aida’s (1994) claim that the FLCAS mainly served to measure speaking anxiety, whereas the SLWAT appeared to measure language-specific anxiety, such as writing. The results showed that second language anxiety and second language writing anxiety influenced students negatively in different ways.

Cheng’s (2004) study defined a multidimensional conceptualization of anxiety and its influence on language learners. He examined writing anxiety from three dimensions: 1) somatic anxiety; 2) psychological anxiety, like nervousness and tension; and 3) behavioral anxiety, like avoidance and withdrawal. An experimental study of 65 EFL reports was used to derive a group of scale items intended to measure L2 anxiety. The scale was then used on data collected from 421 EFL students from various colleges in Taiwan University. The researcher used exploratory factor analysis to produce the Second Language Writing Anxiety Inventory (SLWAI), which contains three subscales: Somatic Anxiety, Cognitive Anxiety, and Avoidance Behavior. Thus, the reliability of the scale presented in this study (SLWAI) was determined to be effective, and it was highly recommended as a global measurement for L2 writing anxiety.

Daud, Daud, and Abu Kassim (2005) addressed apprehension in writing as a result of poor achievement in second/foreign language learning. This study was designed to test the deficit theory, which indicates that students with low performance have more anxiety in writing than high performing ones. The study was conducted on 186 third-year business and accounting participants from MARA University with various levels of English language proficiency. Writing Apprehension Test (WAT) was used as a tool to measure the students’ writing anxiety. A
questionnaire was administered to measure students’ language ability. The result supported the deficit theory by showing that poor performance and low proficiency, including lack of vocabulary and experience in using the language, increased the writing apprehension level among the students.

Al-Ahmad (2003) conducted a study on 349 native speakers studying with 12 L1 writing instructors, as well as 77 ESL participants studying with 3 L2 writing instructors, to analyze and find solutions for writing anxiety arising among the L1 and L2 language learners. Both groups filled out the Daly and Miller writing apprehension scale (WAT) twice, once as a pretest and once as a post test. The findings indicated that the ESL/EFL learners encountered more challenges in English writing that negatively influenced their performance in the learning process than did their native-English speaking counterparts. He recommended taking the writing anxiety among EFL/ESL students into consideration to reduce the apprehension.

A similar study was carried out by Latif (2007), who used two scales, EWAS and EWSS, to measure the provoking of writing anxiety and the writing self-efficacy in English composition among 67 Egyptian prospective teachers. The findings showed that English writing was identified as anxiety-provoking among ESL learners, which created high writing apprehension. It also proved that there was low self-efficacy among the participants, and this was considered to be one of the factors that generated anxiety in English writing.

An interesting dissertation by Salem (2007) attempted to discover the effect of journal writing on writing anxiety by examining 50 participants. The instruments used were the Writing Apprehension Test prepared by Daly and Miller (1975a), questionnaires developed by the researcher, and interviewing. The findings showed that the participants experienced a noticeable level of writing anxiety that affected their performance in writing English. He tried to reduce the
level of writing anxiety by having them keep a journal for ten weeks. According to the results, this approach did help the students to reduce their level of writing apprehension, but they still had a negative attitude toward the traditional teaching methodology.

Erkan and Saban (2010) investigated writing anxiety among 188 EFL students in Turkey. The purpose of the study was to identify whether writing anxiety was correlated with the performance of the students in English. The researchers used three instruments: WAT, a self-efficacy scale (SWS), and a questionnaire on attitudes towards writing (WAQ). The results indicated that the relation between writing apprehension and English performance was negative.

Another study (Ismail, Elias, Albakri, Perumal & Muthusamy, 2010) focused on the level of writing anxiety and attitudes in academic writing from the instructor’s perspective. The tools the authors used were the WAT as well as interview questions. The results indicated that students were apprehensive towards writing, and as a result they disliked it. The researchers suggested some solutions to tackle the problems encountered, such as emphasizing the writing process, focusing on fluency rather than accuracy, supporting interesting and fun writing activities, and online writing.

Ucgun’s (2011) study examined the writing anxiety of primary school 6-8th year students through different variables. He adopted the Writing Anxiety Scale from Yamen (2010). The 1407 participants indicated that their writing anxiety level in their mother tongue was lower than when writing in the English language. The research indicated that some variables, like gender, enjoying the Turkish language, number of books read, and keeping diaries, played a major role in reducing their writing anxiety level.
The above studies show that researchers have discovered many problems related to anxiety that affect writing ability for ESL/EFL learners. Accordingly, it is beneficial to investigate the factors that create a high level of writing anxiety among ESL/EFL learners in order to better understand the sources of writing anxiety that might impact their writing performance.

**Sources of Writing Anxiety**

Several studies have tried to shed light on the sources of anxiety by examining the subject using various tools on different populations in a particular way. Houp’s (2009) case study, for example, investigated writing anxiety in students learning English writing, and he concluded that the problem is mitigated when the early-experience stages of learning FL writing are highly concentrated. Barwick (1995) similarly gave importance to the initial practice of learning English writing, based on the way students express their attitude toward writing by means of avoidance, revision, and completion. Some researchers demonstrated that writing anxiety had a negative impact on grades on the written test (Lee & Krashen, 1997; Daly, 1985). Nevertheless, Fowler, Kroll and Rose found that there was no correlation between writing anxiety and grades.

Some studies indicated that the gender issue was the reason for writing apprehension, since women were more anxious than men (Herrington, Matheny, Curlette, McCarthy & Penick, 2005), while other studies showed that men were higher than women in writing anxiety (Zorbaz, 2010). Many studies supported both positions. Larson (1985) related writing anxiety to situational demands rather than individual characteristics like gender.

More studies showed that the level of writing experience was the main factor causing writing apprehension. Some studies indicated that advanced students who were enrolled in
writing courses were less anxious than novice and intermediate students (Daly & Miller, 1975a; Lee & Krashen, 2002).

Bandura (1989) suggested that higher writing self-efficacy helps to produce better performance. Similar findings by Klassen (2002) supported the importance of writing self-efficacy by reviewing 16 studies on the same topic. Further, a study by Martines, Martinez, Kock and Cass (2011) examined the negative relationship between writing self-efficacy and writing anxiety. The study came as support evidence to Crumbo (1999), Klassen (2002), and Rechtien and Diznno (1997).

Latif (2007) defined several factors that negatively affected writing anxiety and caused low self-efficacy among Arab students. These factors were: "the lack of linguistics knowledge," "low foreign language competence self-esteem," "poor history of writing achievement and perceived writing performance improvement," "low English writing self-efficacy," "instructional practices of English writing," "fear of criticism," and "others’ evaluation of the student’s writing."

As cited in Rabab'ah’s article (2005), Suleiman (1983) argued that poor-quality curriculum design, productive skills practices, and teaching and learning methodologies led to creating more obstacles to learning productive skills in English. In addition, Zughoul (1987) had the opportunity to evaluate the syllabi of several Arab Universities, and found that "two components of the syllabus – namely, language and linguistics – show a lack of balance in the curriculum, where the language component, in particular, stands out as the weakest" (1987).

Another qualitative study was conducted by Lin (2009), who examined the feasible factors of students’ anxiety in writing. The study offered some potential solutions that could improve their English writing courses. The researcher, along with the teacher and 16 advanced
writing students, worked together for two months conducting 20-minute interviews to find an answer to the question: Why do you sometimes feel anxious during writing activity? Lin concluded her research by saying that the lack of working together among teachers and peers increased the level of writing apprehension.

Atay and Kurt (2006) aimed to measure the extent of writing anxiety among prospective ESL/EFL teachers (PTs). The 85 participants of the study were a carefully-selected specimen of senior students. In this study, the data was collected using two tools: the Second Language Writing Anxiety Inventory (SLWAI) and an open-ended questionnaire. The inventory test showed that the majority of the PTs had writing anxiety. In addition, the questionnaire indicated that the PTs had some trouble organizing their thoughts and ideas in their L2. The PTs blamed their writing anxiety on the university instructors and on their past L2 writing experiences. Atay and Kurt concluded by showing that PTs’ writing skills might influence their teaching in the future.

Another study of prospective teachers was conducted by Karakaya and Ulper (2010) to develop their reliability-of-anxiety scale to investigate writing anxiety among students. Using this tool, the researchers concluded that a lack of out-of-school and in-class practice sessions increased writing apprehension.

By reviewing all of these studies, we see that writing anxiety is caused by many factors that need to be explored and presented for future studies. The following section concentrates on writing apprehension in the scientific fields.

**Anxiety and Science Writing**

Science writing is neither easier nor simpler than academic writing in general. Science writers need time to master the required techniques to help their writing become more
understandable and therefore more credible to their audience. According to the National Research Council (NRC) (1996) and Saul (2004), reading and writing are essential tools in science education, and they are considered to be key elements for understanding scientific context. Additionally, research into various levels of education from elementary school to university have highlighted the significance of science writing in boosting learning and enhancing technical science education (Chinn & Hilgers, 2000; Prain & Hand, 1999; Yore, 2000). They found that literacy in science was not learned by just reading short stories and writing reflections about them; it was a matter of combining words and objects in meaningful and reliable ways for distinct types of science writing (Dlugokienski, Amy & Victor, 2008).

Gee (2004) clearly determined that science students had some apprehension and problems with understanding science content. These problems, according to Gee, emerged because science had distinct “social languages” that needed to be taught in different social contexts (grammar and language style). Yore, Bisanz and Hand (2003) argued that language skills should be taught not only to arts students but also across the curriculum. A recent study by Gray, Emerson and MacKay (2005) indicated that communication skills, both written and oral, were among the top five skills needed by new graduates. As a result, many universities in the U.S. require writing courses for freshmen students. Yet, it is not uncommon to hear of undergraduates who specifically choose majors that do not require good writing skills.

According to Cobbing (2011), it became necessary to improve the quality of science writing in South Africa. Although there were many scientific articles, most of them were written in an unnecessarily difficult and sophisticated language. Cobbing emphasized that using such difficult language could hinder understanding about what was being discussed.
Turner and Broemmel (2006) raised a number of reasons for developing writing skills among scientists, and considered science writing to be an accurate model for others to build upon in the future. They also maintained that well-designed science writing has to have a genuine purpose, motivation toward writing, and good structure. In addition, Montgomery (2005) indicated that writing helped the teacher to verify that the students were making progress, and also helped students to integrate personal practices with the subject. Moreover, Gopen and Swan (1990) pointed out that the main reason for scientific discourse was not merely to present the findings, but also to create a real discussion among scientists.

College and university science students are exposed to science writing more often than non-science majors. Moore (1993) suggested that, to avoid writing apprehension, students should articulate their thoughts in a comprehensive and clear way in discussing a particular science course. He also emphasized that science writers should know how to think, because that helps them to deeply understand their subject matter and develops science learning.

Since science writing is complicated, teaching it has been considered a challenging experience (Natalie, 2003). Some teachers interested in science writing have developed helpful pedagogical practices for teaching this subject. One common method is to assign students the task of combining the scientific discipline (Stout, 2010) with development of their sense of motivation and learning (Hulleman & Harackiewicz, 2009). The assignments can be evaluated by peers so that students learn more and benefit from each other (Trautmann, 2009).

Rockow (2008) acknowledged that writing anxiety still exists among students, especially science majors. The researcher adopted writing assignments as a tool to evaluate students. Although writing anxiety decreased among the students using his method, there were still some disadvantages, like spending much of class time writing. As a teacher, he used three types of
writing, to be evaluated accordingly: persuasive writing (solving problems by writing a supportive essay), role playing (not just writing facts), and imaginative writing (indicating knowledge through writing story and poem). With extensive help from the teacher, such as encouraging writing in the students' native language and helping them to organize their writing, the students' anxiety markedly decreased. The researcher urged the reader to use these types of writing assignments and others to help students to enjoy writing and therefore be able to express their knowledge properly.

Hanauer and Englander (2012) found that anxiety was still an issue for science students even after they became full professionals in the field. Their study of 141 Mexican Spanish speaking scientists found that writing science in a second language elicited 21% more anxiety than writing science in their first language. This suggests that anxiety of second language scientists writing in English is a long term phenomena.

From the studies described here, it is well established that writing anxiety is common among students from different backgrounds and in different contexts. To sum up, writing apprehension is considered to be problem-provoking, and it needs to be examined and addressed to provide a proper solution to help students write freely.

**Ways of Studying Anxiety in L2 Settings**

In the mid-1970s, interest in writing apprehension increased under the influence of scholars like Daly and Miller (1975a), who developed the WAT scale to measure writing apprehension. Although WAT was an early development and a frequently-used tool to examine writing apprehension at the time, some questions were raised on the construct validity of the scale. Irregardless of the fact that the WAT was designed for L1 learners, McKain (1991) argued that the WAT was seen as “a measure of writing self-esteem just as much as a measure of writing
apprehension” (p. 25). Cheng, Horwitz and Schallert’s (1999) analysis of the L2 version of the WAT (SLWAT) showed that this scale could serve to study three main areas: low self-confidence, aversiveness to English writing, and evaluation of English writing.

Since then, a number of instruments have been developed and widely adopted to measure anxiety in learning a foreign language. Researchers using FL anxiety tools had found a negative relationship between SL anxiety and students' learning attitudes (Phillips, 1992), SL academic achievement (Aida, 1994; Saito & Samimy, 1996; Horwitz, 1986), language development (Steinberg & Horwitz, 1986), and self-evaluation of proficiency (MacIntyre, Noels & Clement, 1997)

Several scales were invented, developed, and extensively adopted to articulate the amount of anxiety among students in different skill areas in an attempt to create the possibility of an anxiety-free environment. Some of these scales were developed for overall classroom anxiety, while others specialized in particular skills, such as reading, writing, communication, language proficiency, and aptitude. The following paragraphs offer a detailed outline of some foreign-language-learning anxiety scales.

**Foreign Language Classroom Anxiety Scale (FLCAS)**

The FLCAS (Horwitz, Horwitz & Cope, 1986) scale was widely adopted among researchers because it measured three main factors of anxiety: communication anxiety, test apprehension, and the fear of negative evaluation. It comprised 33 positive and negative statements, each item having a 5-point rating scale (strongly agree, agree, uncertain, disagree, and strongly disagree). Some sample statements on the scale are: “I never feel quite sure of myself when I am speaking in my foreign language class,” and “I am usually at ease during tests in my language class.” The reliability coefficient of the research was .94.
The Modern Language Aptitude Test (MLAT)

The authors of the MLAT (Carroll & Sapon, 1959, 2000) designed this scale to predict the likely level of students' success in learning a foreign language. The scale measures four abilities: phonetic coding ability, grammatical function, rote learning ability, and inductive language learning ability. The structure of the scale neglects motivation as an important factor in reducing anxiety in learning a foreign language. However, this scale could be used as a supplementary measure or when motivation is not a very important issue.

English Use Anxiety Scale (EUAS)

This scale was developed by Gardner (1985) to measure anxiety in learning a foreign language in interpersonal situations. It was adopted from Gardner’s (1985) French Use Anxiety Scale. The scale consists of 8 items phrased in positive and negative statements. For example, the scale includes the sentence, “I am sure that I would get nervous if I had to speak French to a sales clerk.” The reliability coefficient of the research was .89 in the pilot test and .92 in the formal study.

English Classroom Anxiety Scale (ECAS)

This scale was developed by the same author who designed EUAS (Gardner, 1985). It, too, had 4 negative and positive statements. This scale measured the amount of anxiety in the English classroom using statements such as, “I was always afraid that the other students would laugh at me if I spoke up in English class.” The reliability coefficient of the research was .90 in the pilot test and .88 in the formal study.

State Anxiety Scale (SAS)

This scale was adopted from Zuckerman’s (1960) Affective Adjective Check List. It consisted of 20 item statements, including 10 positive, such as “I am secure now” and “I am
cheerful,” and 10 negative, like “I am shaky” and “I am tense now.” The internal consistency coefficient of this scale was .92 in the pilot study and .93 in the formal study.

**English Writing Apprehension/Attitude Test (EWAT)**

This test was developed by Daly and Miller (1975a). The scale consisted of 26 items, with an equal number of positive and negative statements, such as “I have no fear of my English writing being evaluated,” and “I am not good at English writing.” The internal consistency coefficient of this scale was .92 in the pilot study and .93 in the formal study.

**Personal Report of Communication Apprehension-College (PRCA-C)**

This scale was designed by McCroskey (1970) to measure the anxiety level related to communication skills among college students speaking their native language. The 20-item questionnaire associated higher anxiety with a high score on the negative statements. Sentences included, “I look forward to an opportunity to speak in public,” and “When communicating, my posture feels strained and unnatural.” The reliability coefficient of the scale was .92 in the pilot test and .93 in the formal study.

**Foreign Language reading Anxiety Scale (FLRAS)**

This scale, developed by Saito, Horwitz and Garza (1999), was adopted by many researchers to measure reading anxiety in a foreign language. It had 20 items and a 5-point Likert scale that started with (1 strongly agree) to (5 strongly disagree). Samples of the scale statements were: “When I’m reading (French, Russian, Japanese), I get so confused I can’t remember what I am reading,” and “I feel confident when I am reading in (French, Russian, Japanese).” The internal consistency coefficient of this scale was .86.
Foreign Language Listening Anxiety Scale (FLLAS)

This scale was designed by Saito et al. (1999), who had just created (FLRAS). It consisted of 20 items. For both scales, a higher score indicated high anxiety and a lower score indicated low anxiety in reading and listening in a foreign language. Samples of the scale statements were: “I get upset when I’m not sure whether I understand what I’m hearing,” and “I enjoy listening to English.” The internal consistency coefficient of this scale was .86.

Sometimes researchers in foreign language anxiety adopted a single tool to measure apprehension in a particular skill, and sometimes they used additional supplemental tools, depending on the type of examined language skill and the suitability of the tool for the educational context. Most studies adopted the FLCAS scale to measure a particular foreign language skill, either alone (Toth, 2008; Horwitz, 2001; and Zhang, 2001), or together with the following supplemental tools: SLWAT and background questionnaires (Cheng et al., 1999; Cheng, 2002), Language Strategy Survey (LSS) (Lucas, Miraflores & Go, 2011), background information survey (Chiang, 2009; Marcos-Llinas & Garau, 2009), Cognitive Load Subjective Rating Scale (CLSRS) (Chen & Chang, 2009), Style Analysis Survey (SAS) (Duxbury & Tsai, 2010), FLRAS (Wu, 2011), English Language Anxiety Scale (ELAS) (Pappamihiel, 2002), and Foreign Language Listening Anxiety Scale (FLLAS) (Elkhafaifi, 2005)

Researchers who were mainly interested in writing apprehension adopted the SLWAI with an open-ended questionnaire (Atay & Kurt, 2006; Öztür, Çeçen, 2007). Some researchers created their own scale, like Karakaya and Ulper (2011), while others made a comparison between the students’ first language and second language writing (Chien, 2011). One study used a face-to-face interview (Hirose, 2003).
In my review of the wide range of studies relating to foreign language anxiety in the classroom, no best tool revealed itself as the proper one for different contexts and different examined skills. As shown, the FLCAS was used most frequently, but on the other hand there were studies that adopted a single tool designed by the researcher him/herself.

In my opinion, adopting a scale that is widely used amongst researchers is a more universally relevant way to measure anxiety than a personal survey or interview. Moreover, a scale may more accurately convey the level of anxiety than an interview, because the participant has to select the choice that represents his/her feeling toward a particular language skill. In my research, I adopted the Daly and Miller (1975a) scale to determine the students’ writing anxiety, first, because no research has been conducted on writing anxiety in the Saudi context by using EWAT, and second, because I think this scale is a proper and simple means for students to easily decide on the answer that matches their feeling.

**Summary**

The current chapter investigates different dimensions of the subject of anxiety in learning academic writing, starting from the definition of the term “writing anxiety” in general, through its negative impact on ESL learners, to writing anxiety in the science fields.

Setting forth the background of research into the cognitive and psychological reactions toward writing anxiety among students was the main focus of the literature review. Although other research dealt with the pedagogical experiences of the language skills in depth, few studies endeavored to take into consideration the implications of negative feelings toward a particular language skill like writing as a way to adjust to the academic requirement.

The previous discussion was intended to create a solid foundation for discussing writing anxiety from a different angle. Although writing apprehension is common among native writers
of English, nonnative writers are faced with two additional, fundamental problems: 1) the limitation of linguistic competence; and 2) cultural and social experiences that are common among, and unique to, nonnative writers of English. Therefore, it is reasonable to assume that there may be a great amount of anxiety among nonnative writers of English from other linguistic backgrounds, including Arabic. Writing skills are considered performance abilities that can be measured by professional scales in order to better help writers not only to succeed in producing correct writing structure, but also to become effective in academia.
CHAPTER 1

METHODOLOGY

As previously discussed, this study is designed to examine writing anxiety in three groups of science students who use English writing in their academic programs. The main purpose of this study is to determine the level and sources of anxiety that the students experience while writing in English as a foreign language. A suitable tool was needed to achieve the explicit goals and assess the students' feelings toward writing in English. Therefore, the study design is quantitative, because of the instrument that is adopted to answer the raised research questions and it could help to cover a considerable amount of people which is more than the qualitative study could do. According to Hopkins (2000), quantitative research is a way to find the correlation between variables (e.g., performance, time, etc.) by using statistics. Furthermore, Creswell (2004) articulated that quantitative research is a translation from human practices into numbers. It has been characterized as numeric, deductive, objective, artificial, and not generalizable (Bavelas, 1995).

Research Questions and Hypotheses

The research questions that this study aims to answer are:

1. Do Saudi EFL students experience anxiety in their academic writing in the science colleges (preparatory year, engineering, and pharmacy)?

Hypothesis 1: It was predicted that EFL science students who are in their preparatory year or majoring in the engineering or pharmacy colleges at Qassim University would experience high anxiety when writing in English.

2. Do preparatory year students (beginner students) experience more anxiety when writing in English than do engineering and pharmacy students?
Hypothesis 2: It was predicted that preparatory students in their first year at Qassim University would be more anxious when writing in English than students in the engineering or pharmacy colleges.

3. Where do these problems come from?
Hypothesis 3: It was predicted that students had anxiety in English writing for various reasons, including their past and present educational experiences.

By asking the first question, I am targeting a particular group of people who may or may not struggle in their English writing skills in their academic area. I used the word *anxiety* to mean stress, worry, apprehension, and other terms that share a similar meaning. The reason for choosing the field of science for my research is because Qassim University is trying to raise the qualifications for admission among undergraduate science students, as well as the standards of the college so that students may better compete in an English-speaking scientific community worldwide. Therefore, students have to prove their English proficiency, and Qassim University has taken the initiative to create a preparatory year (an intensive English course for one year) to introduce students to the importance of the English language in their academic field and to improve their language ability by providing elements that are needed for success in their education.

The second question inquires whether one year may not be enough for the students to master English writing. Therefore, preparatory students could still experience some worries and apprehension toward their writing in English. Therefore, this question is created to compare the writing anxiety among the three colleges.

The third question is a way to dig deeper to discover some of the sources of English writing anxiety that might be shared among the students. Asking this question may help to lead
for future researches about the writing anxiety arousing and how to reduce them to help a better learning environment.

**Participant Recruitment**

The targeted participants are Saudi ESL BA students in three science colleges and departments at Qassim University. The study was conducted on 296 participants who were between 18-66 years old. The participants were fully aware that the personal information they provided would be kept anonymous and strictly confidential, and would be eliminated after the study was finished. The consent form was translated into the participants’ native language, Arabic ((see Appendix B for full version of the tool in Arabic)), to ensure that these points were clear.

**Data Collection**

The Institutional Review Board permission (IRB) was granted for the research after I also received written permission from the Science College at Qassim University, where the study took place. The Dean of the Science College, along with the research committee at Qassim University, was pleased to provide written approval for the research after a careful reading of the proposal; the purpose of the study, and the methodology, as well as reviewing the procedure of the research and the estimated time period during which the study would take place. I was granted an educational trip to my home country of Saudi Arabia to collect the data in person during the spring semester of 2012.

After officially receiving permission from the President of Qassim University to collect the data, I began the process by distributing a written questionnaire among the three groups of science students: preparatory year, engineering students in their 4th or 5th semester out of 10, and pharmacy students in their 6th, 7th, or 9th semester out of 10. I administered the data surveys
by myself, except for the preparatory group, which was with the assistance of the instructor under my direct supervision. The short survey took no more than ten minutes. The collected data was then translated into English. Finally, each student's data was manually entered into the Internet survey, which was then transferred into the Microsoft SPSS computer program.

The study participants started by filling out some personal information on the consent form, including their name, age, sex, email address, and position. On the second page, there were 26 questions with a range of responses: strongly agree, agree, uncertain, disagree, and strongly disagree. The third page had the last question that was raised by the researcher about the source of writing anxiety (see Appendix A for full version of the tool in English). Finally, the last page reminded the participants of the importance and confidentiality of the information they contributed, and expressed gratitude for their valuable participation. It also provided my contact information for future communication.

**Data Collection Location**

The study was conducted at Qassim University, which had been created from the combination of two previously-established schools: King Saud University and Mohamad bin Saud University. Qassim University is comprised of more than 29 colleges and 19 deanships. Although males and females are separated in the Saudi educational system, they are under one administration. The approximate number of students is 44,000.

Qassim University was chosen as my research location for several reasons. First and most importantly, it seized the initiative of modifying the medium of instruction in most of its science colleges and departments from the native language, Arabic, into English. So far, it is the only Saudi university that has done so. Thus, the results of its bold decision to teach science solely in English may be closely watched and duplicated elsewhere, perhaps along with any circumstances.
that produce or reduce English writing anxiety. Second, teaching science students in English has not been well examined and evaluated; therefore, Qassim University is an ideal site for research to investigate the experience of writing anxiety among its students.

Third, a researcher has better access to the university that he graduated from. Qassim University is not only my Alma Mater, but it was my employer, as I taught English there for three years, as well as the preparatory course for one semester.

Rating Scale

To conduct this study, I needed a scale that had the ability to measure feelings and experiences of the participants that could not be revealed easily. So, I carefully sought a scale that could contribute the best findings to my research. At the beginning, I spent a lot of time reviewing and learning about the different scales available. A survey or rating scale that is chosen is simple and according to Daily and Miller (1975a) is a reliable in this study since it seeks the feeling of the participants in English writing. Since the participants may not be able to give a definite description, this scale provides levels of feeling to choose from. In most surveys, the language used to describe the feeling is understandable and the choices are limited to certain number of statements to choose from. Survey is easy to be calculated and extracted the findings within seconds by the use of computer calculating programs. It also could cover a considerable number of participants in less time. The name of the scale is English Writing Apprehension/Attitude Test (EWAT). It consists of 26 items, with an equal number of positive and negative statements, such as “I have no fear of my English writing being evaluated,” and “I am not good at English writing.”

The internal consistency coefficient of this scale was .92 in the pilot study and .93 in the formal study. Coefficient reliability ($r$) is a quantitative expression that measures the consistency of a
given tool. The value of 0.00, for example, represents the absence of reliability, whereas the value of 1.00 means perfect reliability. In the EWAT, for instance, the consistent coefficient is .93, which means that the scale is considered 93% accurate with a 7% margin for error. To sum up, the higher the reliability coefficient, the more reliable the scale is.

I personally define writing anxiety as a confusing moment spent on a piece of writing, whether a small assignment or a long dissertation, for reasons ranging from insufficient experience in writing styles to fearing criticism and evaluation, which impacts the process of writing in a negative way. Based on this personal definition, it could be seen that writing in English for preparatory year students as well as pharmacy and engineering students might be problematic. Among several scales that were examined for measuring writing anxiety in the ESL/EFL context, I found the EWAT (Daly & Miller, 1975a) to be a reliable scale for conducting this study appropriately for several reasons. First, this well-respected scale has been adopted in over than 30 studies as either the main scale or a supplementary tool. Second, more than any other scale in the ESL/EFL context, the EWAT statements measure sentiments similar to those raised in my personal definition, including: “My mind seems to go blank when I start to work on my composition,” “I would enjoy submitting my writing to journals for evaluation and publication,” and “I feel confident in my ability to express my ideas clearly in writing.” Third, the EWAT uses simple statements, so it can be conducted in less than 10 minutes. Last but not least, it is easy to calculate EWAT results by following the formula in the methodology.

Internet-based Surveys

Internet-based surveys are widely used today for a variety of reasons, including its low cost, wide access to populations all over the world, modern style, simple organization, and data evaluation. These websites are fairly similar in their work of collecting the data and providing a
complete summary of the final results. In this study, I used the “Wufoo” website by creating an account and preparing a survey for the participants to fill out.

**Data Analysis Procedure**

This EWAT study was scored using the Daly and Miller 5-point likert scale. Responses to statements on the survey range on the scale from 1 (strongly agree) to 5 (strongly disagree). The total score on the EWAT scale may range from 26 to 130. The scale was organized such that the score is read by adding 78 to the positive statements and subtracting the negative statements. A total score in the range of 26-59 indicates a high level of writing anxiety, 60-96 indicates a moderate level of writing apprehension, and 97-130 indicates a low level of writing anxiety. (1975a). For example, when one chooses *strongly disagree* for the statement, “I avoid writing,” the response is scored as 5 points. On the other hand, when *strongly agree* is chosen for the statement, “My mind seems to go blank when I start to work on my composition,” that is counted as 1 point for this response.

Daly and Miller (1975c) applied the formula on 98 undergraduate students at West Virginia University and they discovered that those who scored above 90 were having a low level of writing anxiety. On the contrary, those scoring less than 54 were high in writing anxiety. Scores between 90 and 54 showed moderate anxiety. Later, Daly (1978) investigated 3,602 undergraduate students by using the WAT, and results broke down into three groups: the low (96.50), the high (55.45), and the moderate (75.04) Moreover, Huwari and Abd Aziz (2011) discovered that 71.8% of Jordanian post-graduate students experienced high writing anxiety as indicated by scores of 54 or below, 26.2% were moderate, and 1.9 were low, with scores above 90.
Limitations of the Study

This study aims to examine the educational experiences of science students when producing academic writing at Qassim University, but perhaps it will be relevant to other universities in Saudi Arabia as well. Thus, Qassim University is considered a micro image of other universities there, since they share similar cultural values and educational background.

However, my study, like many other studies, has some limitations that could impact its findings. First, my research may not be relevant to some Arab and international countries that do not share Saudi educational experiences and qualifications. Second, the benefits of this study apply specifically to students in scientific fields, which excludes the humanities and arts.

The third and most important limitation is that the findings of this study merely consist of a survey that was distributed widely among science students. Therefore, the data are limited to the items on the survey, and there might be a range of additional issues relating to anxiety that the survey does not address. Perhaps adding tools like interviews and pre- and post-writing to the survey would achieve more comprehensive results and offer a better chance for participants to express their feelings.
CHAPTER 4

RESULTS

The ultimate goal of this research is to learn more about L2 writing anxiety, and more specifically to answer the research questions that were raised in Chapter Three: 1) Do Saudi EFL students experience anxiety using English for their academic writing in the science colleges (preparatory year, engineering, and pharmacy)? 2) Do preparatory year students (beginner students) experience more anxiety when writing in English than do engineering and pharmacy students? 3) Where do these problems come from? Therefore, the data were analyzed according to three main themes: (a) the level of English writing anxiety experienced by all of the participants, (b) The Mean, Standard Deviation, and the correlation for All Participants, and (c) the sources of anxiety. The scores were computed using the method described below.

The Overall Levels of Anxiety among the Three Groups

Descriptive statistics were assessed by using the EWAT scale to examine the level of anxiety that 296 science students at Qassim University experienced when writing in English. The students answered a 26-item survey using a 5-point Likert-type response format. The range of choices was: strongly agree, agree, uncertain, disagree, and strongly disagree. The statements were intended to measure different aspects of anxiety: stress apprehension, evaluation apprehension, and organization apprehension. Through the mean, standard deviation, and the percentages of this study, it appeared that the target student sample that participated in the study experienced moderate writing apprehension (M = 83.7). The total score for each participant was computed by subtracting all the positive statements and all the negative statements separately. Then, the difference of these two sums (positive minus negative) was added to the mean of 78 given by Daly and Miller (1975a).
According to Daly and Miller (1975), a total score between 25-59 shows a significant level of writing apprehension; scores in the middle range from 60-96 indicate that the anxiety is moderate, or not significantly unusual. Scores in the range from 97-130 indicate a low level of L2 writing anxiety. Therefore, the mean score of 83.7 sits clearly in the moderate range.

To further understand this result, the test was first run on the groups separately, in order to compare the different levels of writing anxiety each experienced: preparatory year, pharmacy, and engineering. Although the preparatory year participants were in their first year at the university, they were not the most anxious among the three groups. Their mean EWAT score (M) was 83.30. Instead, the engineering participants turned out to be the most anxious students (M = 81.18), compared to the other two groups. The findings showed that the pharmacy students, from pre-intermediate to advanced, were the least anxious when writing in English (M = 85.48).

To conclude, all three groups scored in the moderate writing anxiety range (similar to their L1 counterparts), but at different levels. Next, I examined the data more closely, using all participants as a group.

**The Mean, Standard Deviation, and the correlation for All Participants**

Table 1: The Mean and Standard Deviation for Statements with a Negative in Meaning

<table>
<thead>
<tr>
<th>Negative Statements</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>N/P</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(4) I am afraid of writing essays when I know they will be evaluated.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>N</td>
<td>2.58</td>
<td>1.204</td>
</tr>
<tr>
<td>(21) I have a terrible time organizing my ideas in a composition course.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>N</td>
<td>2.66</td>
<td>1.194</td>
</tr>
<tr>
<td>(24) I don't think I write as well as most other people.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>N</td>
<td>2.78</td>
<td>1.236</td>
</tr>
<tr>
<td>(18) I expect to do poorly in composition classes even before I enter them.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>N</td>
<td>2.97</td>
<td>1.167</td>
</tr>
<tr>
<td>Statement</td>
<td>N</td>
<td>Agree</td>
<td>Disagree</td>
<td>Mean</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---</td>
<td>-------</td>
<td>----------</td>
<td>------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>(16) I never seem to be able to write down my ideas clearly.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>2.99</td>
<td>1.265</td>
<td></td>
</tr>
<tr>
<td>(25) I don't like my compositions to be evaluated.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>3.01</td>
<td>1.272</td>
<td></td>
</tr>
<tr>
<td>(7) My mind seems to go blank when I start to work on my composition.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>3.02</td>
<td>1.263</td>
<td></td>
</tr>
<tr>
<td>(22) When I hand in a composition, I know I'm going to do poorly.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>3.11</td>
<td>1.156</td>
<td></td>
</tr>
<tr>
<td>(13) I'm nervous about English writing.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>3.21</td>
<td>1.192</td>
<td></td>
</tr>
<tr>
<td>(26) I'm not good at English writing.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>3.49</td>
<td>1.355</td>
<td></td>
</tr>
<tr>
<td>(1) I avoid English writing.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>3.56</td>
<td>1.130</td>
<td></td>
</tr>
<tr>
<td>(5) Taking a writing course is a very frightening experience.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>3.67</td>
<td>1.107</td>
<td></td>
</tr>
<tr>
<td>(8) Expressing ideas through English writing seems to be a waste of time.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>3.75</td>
<td>1.202</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 above represents the EWAT statements that had a negative meaning. The first column of the table lists the statements; the second is the number of participants. The scale ranges from 1, the maximum score of anxiety in English writing, to 5, the least amount of anxiety. The letter N identifies the negative statements. Finally, the mean and standard deviation are symbolized by M and SD.

This table examines the negative statements as a measure of the students' writing anxiety based on a scale of five levels of agreement: 1) Strongly agree, 2) Agree, 3) Uncertain, 4) Disagree, 5) Strongly disagree. Therefore, the students who had no problems with anxiety had the highest points, and students with the highest anxiety had the lowest points. In other words, if
a student picked 1 or 2, this meant that he had a problem with writing apprehension. The negative statements are organized from the most provoking statements to the least.

After analyzing the data according to Daly & Miller (1975a) rating scale, the participants' scores averaged above 3 overall for most of the questions (11 out of 13). This means that, in general, the students were not experiencing severe issues regarding writing apprehension. Table 1 was organized starting with the most apprehension-provoking statements about writing in English. For example, the mean of the first statement was $M = 2.58$, which proved that more than moderate fear was provoked when the students knew their essays were to be collected for evaluation. (By comparison, moderate fear would have produced a mean of 3.00, and strong fear 1.00.) The students' generally moderate fear peaked when the subject was evaluation. Perhaps the teacher’s evaluation seemed frightening because the students were not clear on what factors affect the score when their paper is assessed in English. Another explanation may be that the students have anxiety about evaluation in general. The next statement deals with having trouble organizing ideas in an English writing course. The mean, $M = 2.66$, showed that the students' concern about arranging their thoughts in order to write a good essay generated a slight level of anxiety. This problem could occur if their past teachers focused more on the theory of writing rather than the practice. Another explanation could be that organizing compositions was seen by the students as a different skill than writing in the science fields. The next statement showed that the students thought they did not write as well as other students did. The mean, $M = 2.78$, was a little higher than the previous statements, indicating a level of uncertainty about the whole idea. This uncertainty might have cropped up because the students rarely experienced peer review; rather they waited for the teacher's assessment to see their grade.
The next four statements: “I expect to do poorly in composition classes even before I enter them,” “I never seem to be able to write down my ideas clearly,” “I don't like my compositions to be evaluated,” and “My mind seems to go blank when I start to work on my composition,” were scored in a range of $M = 2.97$, $M = 2.99$, $M = 3.01$, and $M = 3.02$, respectively. A mean of 3.00 literally means that the students were uncertain about their feeling toward the statements; however, this score is considered a moderate feeling of anxiety. An explanation for this score on these four statements could be that the students had problems with their previous personal experience with the course or the instructor. The statement, “When I hand in a composition, I know I am going to do poorly” elicited a mean, $M = 3.11$. The students had moderate anxiety toward their self-esteem when handing in their writing and waiting for the results to be announced. The following negative statements: “I am nervous about English writing,” “I avoid English writing,” and “Taking a writing course is a very frightening experience,” show the mean increasing from $M = 3.21$ to $M = 3.49$, $M = 3.56$ to $M = 3.67$, respectively. The higher the mean, the more students were leaning from uncertain toward only a low anxiety in their feelings. Therefore, the mean $M = 3.67$ for the previous statement indicates that the students were uncertain and leaning toward disagreeing that writing class is a frightening experience. It could be observed that the statements in this range are more general compared to the more specific ones about evaluation and organization. Finally, a mean of $M = 3.75$ proved that the participants had an equal mixture of uncertainty and rejection of the statement, “Expressing ideas through English writing seems to be a waste of time.”.
Table 2: The Mean and Standard Deviation for Statements with a Positive in Meaning

<table>
<thead>
<tr>
<th>Positive Statements</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>N/P</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(14) People seem to enjoy what I write in English.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>3.12</td>
<td>1.036</td>
</tr>
<tr>
<td>(19) I like seeing my thoughts on paper.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.89</td>
<td>1.123</td>
</tr>
<tr>
<td>(12) I like to have my friends read what I have written.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.86</td>
<td>1.119</td>
</tr>
<tr>
<td>(9) I would enjoy submitting my English writing to magazines for evaluation and publication.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.82</td>
<td>1.209</td>
</tr>
<tr>
<td>(23) It's easy for me to write good compositions.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.82</td>
<td>1.110</td>
</tr>
<tr>
<td>(11) I feel confident in my ability to express my ideas clearly in writing in English.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.78</td>
<td>1.145</td>
</tr>
<tr>
<td>(10) I like to write down my ideas in English.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.72</td>
<td>1.199</td>
</tr>
<tr>
<td>(3) I look forward to writing down my ideas in English.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.70</td>
<td>1.228</td>
</tr>
<tr>
<td>(2) I have no fear of my English writing's being evaluated.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.66</td>
<td>1.162</td>
</tr>
<tr>
<td>(20) Discussing my English writing with others is enjoyable.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.59</td>
<td>1.155</td>
</tr>
<tr>
<td>(6) Handing in an English composition makes me feel good.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.45</td>
<td>1.122</td>
</tr>
<tr>
<td>(17) Writing in English is a lot of fun.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.38</td>
<td>1.181</td>
</tr>
<tr>
<td>(15) I enjoy English writing.</td>
<td>296</td>
<td>1</td>
<td>5</td>
<td>P</td>
<td>2.33</td>
<td>1.132</td>
</tr>
</tbody>
</table>

Table 2 lists the EWAT statements that are positive in meaning. In this table, therefore, the scale is reversed, because strong agreement (1) with a positive statement is a lower number than strong disagreement (5). A student who is anxious about writing in English would give the statement a higher number.

Table 2 starts with a high level of uncertainty for the statement, “People seem to enjoy what I write in English” (M = 3.12), followed by “I like seeing my thoughts on paper,” (M = 2.89). It seems that the students were not sure what people would say about their writing, which
may similarly explain their reaction to the third statement, “I like to have my friends read what I have written,” with a lower mean of $M = 2.86$. Enjoying submitting a piece of writing to a magazine and the ease of writing good compositions both had the same mean, $M = 2.82$, which is located in the range indicating that the students agree with the statements, or a moderate to low level of writing anxiety. Feeling confident in their ability to express was not necessarily a big issue among the students, as shown by the mean of $M = 2.78$, between uncertain and low anxiety. The following statements: “I like to write down my ideas in English,” “I look forward to writing down my ideas in English,” and “I have no fear of my English writing’s being evaluated,” were found to range from $M = 2.72$ to $M = 2.70$ to $M = 2.66$, respectively. It could be said that when there were general statements like these on the EWAT, the students were unsure but leaned toward agreeing. Similarly, the general statements “Writing is a lot of fun” and “I enjoy English writing,” at $M = 2.38$ and $M = 2.33$ respectively, were the most broadly accepted of all. Discussing English writing and handing it to the instructor were located in the range of $M = 2.59$ and $M = 2.45$ respectively. Thus, these two actions did not provoke anxiety in writing.

**Correlation**

Table 3: Positive and Negative Correlation of Statements Across the 26 Variables

<table>
<thead>
<tr>
<th>Statements</th>
<th>Negative</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Correlation</strong></td>
<td><strong>(13) I'm nervous about English writing.</strong></td>
</tr>
<tr>
<td>(1) I avoid English writing.</td>
<td>Pearson Correlation</td>
<td>.174**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
</tr>
<tr>
<td>(2) I have no fear of my English writing's being evaluated.</td>
<td>Pearson Correlation</td>
<td>-.237**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
</tr>
<tr>
<td>(3) I look forward to writing down my ideas in English.</td>
<td>Pearson Correlation</td>
<td>-0.051</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.379</td>
<td>0.001</td>
</tr>
<tr>
<td>N</td>
<td>296</td>
<td>296</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(4) I am afraid of writing essays when I know they will be evaluated.</th>
<th>Pearson Correlation</th>
<th>0.245**</th>
<th>-0.079</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.174</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(5) Taking a writing course is a very frightening experience.</th>
<th>Pearson Correlation</th>
<th>0.181**</th>
<th>-0.394**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.002</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(6) Handing in an English composition makes me feel good.</th>
<th>Pearson Correlation</th>
<th>-0.210**</th>
<th>0.314**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(7) My mind seems to go blank when I start to work on my composition.</th>
<th>Pearson Correlation</th>
<th>0.256**</th>
<th>-0.207**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(8) Expressing ideas through English writing seems to be a waste of time.</th>
<th>Pearson Correlation</th>
<th>0.229**</th>
<th>-0.416**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(9) I would enjoy submitting my English writing to magazines for evaluation and publication.</th>
<th>Pearson Correlation</th>
<th>0.004</th>
<th>0.199**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.939</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(10) I like to write down my ideas in English.</th>
<th>Pearson Correlation</th>
<th>-0.058</th>
<th>0.260**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.321</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(11) I feel confident in my ability to</th>
<th>Pearson Correlation</th>
<th>-0.157**</th>
<th>0.305**</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th>Statement</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>express my ideas clearly in writing in English.</td>
<td></td>
<td>0.007</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>(12) I like to have my friends read what I have written.</td>
<td>Pearson</td>
<td>-0.113</td>
<td>.323**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.052</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(13) I'm nervous about English writing.</td>
<td>Pearson</td>
<td>1</td>
<td>-.208**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(14) People seem to enjoy what I write in English.</td>
<td>Pearson</td>
<td>-0.008</td>
<td>.248**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.897</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(15) I enjoy English writing.</td>
<td>Pearson</td>
<td>-.208**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(16) I never seem to be able to write down my ideas clearly.</td>
<td>Pearson</td>
<td>.278**</td>
<td>-0.082</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.159</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(17) Writing in English is a lot of fun.</td>
<td>Pearson</td>
<td>-.196**</td>
<td>.536**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.001</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(18) I expect to do poorly in composition classes even before I enter them.</td>
<td>Pearson</td>
<td>.207**</td>
<td>-.204**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(19) I like seeing my thoughts on paper.</td>
<td>Pearson</td>
<td>-0.015</td>
<td>0.102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.799</td>
<td>0.079</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>296</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Pearson Correlation</td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------</td>
<td>-----------------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>(20) Discussing my English writing with others is enjoyable.</td>
<td>-0.145*</td>
<td>0.013</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.265**</td>
<td></td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(21) I have a terrible time organizing my ideas in a composition course.</td>
<td>0.298**</td>
<td>0.000</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.112</td>
<td></td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(22) When I hand in a composition, I know I'm going to do poorly.</td>
<td>0.244**</td>
<td>0.000</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.227**</td>
<td></td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(23) It's easy for me to write good compositions.</td>
<td>-0.194**</td>
<td>0.001</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.210**</td>
<td></td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(24) I don't think I write as well as most other people.</td>
<td>0.222**</td>
<td>0.000</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.141*</td>
<td></td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(25) I don't like my compositions to be evaluated.</td>
<td>0.280**</td>
<td>0.000</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.108</td>
<td></td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>(26) I'm not good at English writing.</td>
<td>0.328**</td>
<td>0.000</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.276**</td>
<td></td>
<td>296</td>
<td></td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The correlation table above correlates the negative and positive statements on the EWAT survey with each of the variables. By looking at the statements, it is noticeable that the positive statements supported each other, and similarly, the negative statements supported each other. The
strongest negative statement toward English writing was, “I am nervous about English writing.”
It has almost the same meaning as “I am anxious about English writing.” Therefore, it is no
surprise that this statement correlated with almost all of the negative items on the scale.

**Negative Statements**

Being nervous about English writing was significantly related to the avoidance attitude
toward writing (Q13 with Q1). In other words, the more nervous the students were about writing
in English, the more avoidance they practiced. A significant positive correlation was found
between “I am afraid of writing essays when I know they will be evaluated” and “I am nervous
about English writing” (Q13 with Q4), indicating that the high anxiety in writing was strongly
correlated with the high fear of evaluation. Moreover, it could be predicted from Table 3 that
taking a writing course was considered a frightening experience by some of the students, because
there was a strong correlation between that statement and their anxious feeling toward writing
(Q13 with Q5). Feeling nervous was strongly related to the students’ feeling incapable of
beginning to write in English, and having a difficult time writing down ideas clearly (Q13 with
Q7 & Q16). Some nervous students might think, “Expressing ideas through English writing
seems to be a waste of time” (Q13 with Q8), and this, in turn, was strongly correlated to the
feeling of apprehension toward English writing. The feeling of expecting to perform poorly in
composition was strongly correlated to being anxious in writing, and vice versa (Q13 with Q18).
Students who were nervous about writing also thought they had problems with writing
organization (Q13 with Q21). In this case, the correlation between the two variables was strongly
positive. Students who were worried about writing usually underestimated their ability to write
like others, and the relationship between the two items was significantly positive (Q13 with
Q24). Finally, writing anxiety was significantly correlated to the following statements: “I do not
like my compositions to be evaluated,” and “I’m not good at English writing.” Thus, writing apprehension was again associated with evaluation and lack of confidence.

On the flip side of the same coin, a significant negative correlation was found between “I have no fear of my English writing’s being evaluated” and “I am nervous about English writing” (Q13 with Q2), which indicates that high anxiety in writing was negatively correlated with low anxiety toward evaluation. Feeling good about submitting a paper in English was negatively related to feeling nervous about English writing (Q13 with Q6). Confidence in expressing through writing is perhaps the opposite of anxiety, so the correlation between the two variables was significantly negative (Q13 with Q11). Similarly, it makes sense that there is a negative correlation between a student enjoying discussing their English writing with others and feeling nervous about writing (Q13 with Q20). Enjoying writing in English had a significant negative correlation to apprehension, since anxiety and enjoyment are almost opposite in meaning (Q13 with Q15). Last but not least, the nervousness about writing in English as stated in Q13 had a higher negative correlation to "writing is a lot of fun" (Q17) than to the enjoyment of discussing English writing with others.(Q20). Thus, students would more readily enjoy sharing their writing than to call writing fun.

Positive Statements

Writing in English seemed to be enjoyable for some of the participants. The significantly correlated statements are shown in Table 3. The statement, “I enjoy English writing” naturally had a strong, negative correlation to the item “I avoid English writing” (Q15 with Q1), because students who enjoyed writing did not avoid it. In addition, the fear of registering for a writing course was negatively correlated with enjoying writing (Q15 with Q5), because those who liked English writing were not afraid of taking an English writing course. A significant negative
correlation was found between “I enjoy English writing” and “Expressing ideas through English writing seems to be a waste of time” (Q15 with Q8), showing that students who enjoyed writing found it important. Students who liked English writing were not likely to feel sure they would do poorly, and that created a negative, strong relation (Q15 with Q22). Finding it difficult to organize and start English compositions was negatively correlated to enjoying writing (Q15 with Q7 & Q21). “I am nervous about English writing” expresses the opposite meaning of enjoying English writing; consequently it had a negative correlation (Q15 with Q13).

Looking forward to writing down ideas in English was significantly correlated to liking English writing (Q15 with Q3). In addition, feeling good about submitting an essay was understandably highly correlated with enjoying writing (Q15 with Q6). Enjoying the prospect of submitting writing to a magazine to be evaluated and published was highly correlated to enjoyment of English writing (Q15 with Q9). Confidence in writing is closely related to liking writing; therefore, enjoying English writing was significantly correlated to the statement, “I feel confident in my ability to express my ideas clearly in writing in English” (Q15 with Q11), “Writing is a lot of fun” (Q15 with Q17), and “Discussing my English writing with others is enjoyable” (Q15 with Q20).
Figure 1: The level of writing anxiety among the three groups. The score is out of 130 which means low level of writing anxiety.

Sources of Writing Anxiety

My third research question was created in an attempt to explicitly articulate the sources of L2 English writing anxiety. It was an open-ended question where the participants wrote what was in their minds: “From your point of view as a science specialist, what is the source of any writing anxiety that you have (e.g. because of the teachers’ evaluation, lack of self-esteem, past education)?” Approximately 139 out of 296 of the students did not answer the question. Upon analysis, four sources of writing apprehension were found among the students in the science colleges: 1) the weakness of their past education, 2) their lack of confidence, 3) concern over the teacher’s evaluation, and 4) scientific terminology. Among the students who answered the question, some wrote one reason for their writing anxiety and some wrote two or more.

The participants wrote freely about the sources of their writing anxiety. From their descriptions, I interpreted and categorized the sources into the four themes. The findings showed that, by far, the majority (144 students) attributed writing anxiety to the weakness of their pre-
college education. As an example, if a student wrote that the poor quality of their elementary, intermediate, and high school education affected their performance on the university level, I included it in this category. The second identified source of writing anxiety was lack of confidence. Less than a third (31 students) thought that writing apprehension occurred because they were not confident enough in learning the English language, specifically in L2 writing. There were many reasons for a lack of confidence in performing L2 writing tasks. One possible reason, in fact, was the lack of student training in the pre-college stage. The third source of anxiety was the teacher’s evaluation. More than 20 students found that their concern over the prospect of the teacher’s evaluation affected their writing negatively. Finally, one student believed his source of writing apprehension was having to incorporate the scientific terminology that is widely used in the science fields.

Figure 2: The sources of writing anxiety among the three groups. It can be clearly seen that the weakness of the previous education is higher than the lack of confidence and concern for the teacher’s evaluation.
Conclusion

The three research questions of this study were answered by using the EWAT scale to measure writing anxiety among three science colleges at Qassim University, and by an open-ended question to articulate the sources of writing anxiety. The mean and standard deviation of the results showed that all three groups of participants shared almost the same level of moderate writing apprehension in L2 English composition. A moderate level of apprehension is in the normal range for student writers, and may encourage the learners to write in an almost anxiety-free environment in the future. Contrary to my hypothesis, the preparatory year students were not the most anxious English writers. The engineering students proved to be the most anxious, and the pharmacy students the least. Analysis of the EWAT results showed that the participants felt most anxious about statements referring to evaluation, organization, and confidence in writing. They felt more secure about statements referring to sharing their ideas. Writing was the least anxiety-provoking when the statements were generally about enjoying writing.

Finally, the students' answers to the open-ended question indicated that writing apprehension resulted from one or more sources: mainly the weakness of their past education, followed by a lack of confidence, and concern for the teacher’s evaluation.
CHAPTER 5
DISCUSSION AND CONCLUSION

In this chapter, the findings of the study will be summarized and the results will be discussed. Then, the implications will be drawn based on the results. Finally, a discussion of the limitations and suggestions for future research conclude this chapter.

Summary of Findings

This empirical study first examined the level of L2 writing anxiety among students in science colleges at Qassim University; then investigated which of the three groups, preparatory, engineering, and pharmacy, were more anxious; and finally discovered the sources of writing anxiety among the participants. Using a quantitative approach, I administered the Daly and Miller (1975a) anxiety writing scale (EWAT) to students in three science colleges: 1) preparatory year, 2) pharmacy, and 3) engineering. The survey, translated into Arabic, was filled out by 296 participants. My objective was to test the hypotheses that, 1) the science students, being required to write and communicate in English, would experience high writing anxiety, 2) the preparatory year students would be more anxious when writing in L2 than the more advanced students in engineering and pharmacy, and last but not least, 3) based on the first question, the students would provide various reasons for their writing apprehension, including their past and present educational experiences.

The first hypothesis about the level of anxiety of L2 students was examined, and the data proved that the students in the science fields experienced only a moderate level of writing apprehension. The mean score of the participants was 83.7, which, according to the Daly and Miller rating scale is not considered a significant, unusual level of writing apprehension.
The second hypothesis was examined by adding the scores for each group separately and dividing by the number of students in the group. The results proved that the engineering students experienced a slightly higher level of writing anxiety, the pharmacy students were the least anxious, while the preparatory year participants were in the middle. My hypothesis was that the preparatory year students would exhibit more writing anxiety than the two other science fields. While they were more anxious compared to the pharmacy students, they turned out to be less anxious in comparison with the engineering students.

My third hypothesis predicted that there would be various sources of writing apprehension. I added an open-ended question to the end of the EWAT for the students to speak their minds about the sources of their writing anxiety. Although not all of the participants answered the question, the responses were sufficient and clustered around three main themes. The majority assigned their writing anxiety to the weakness of their previous education. A lack of confidence was chosen by many participants as the second reason for writing apprehension. The third reason given was the teacher’s evaluation, and the last source of writing apprehension, raised by one student, was the difficulty of science terminology.

**Discussion**

In the discussion, the results of the study will be presented and discussed, and then a conclusion will be drawn based on the discussion.

**Writing Anxiety Among Science Colleges at Qassim University**

The results of this study confirmed empirically a moderate level of writing anxiety among the students which is different than the researcher’s expectation that L2 students would experience a high level of anxiety when writing in English in the scientific fields. Although 13 of the 296 individual students scored in the range less than 59, which meant that they had a high
level of writing anxiety, the mean writing anxiety score among the three groups was 83.7 out of 130. As the scale is designed, the higher the total score the less anxiety is indicated, and the lower the score the more anxiety the students reveal about their writing in English.

The findings showed that the participants had moderate anxiety about writing in English, which might be considered a natural feeling when writing in a foreign language. According to Daly and Miller (1975a), a total score between 26-59 indicates a significant level of writing anxiety, a score from 60-96 points to a moderate level of writing anxiety, and last, a total score in the range of 97-130 shows no writing apprehension. Therefore, the mean score of 83 among the participants at Qassim University showed that L2 writing anxiety was a moderate--but not a serious--problem for these science students.

These results run counter to many other studies conducted in different ESL contexts that have shown that L1 and L2 students had some fear when writing in English. Given that the most common measurement tool for these studies on writing anxiety was the Daly and Miller WAT scale (1975a), which was also used in this study, it could be concluded that the findings of this study differ from the findings of other researchers.

According to Abdul Haq (1982); Abbad (1988); Wahba (1998); Al- Ahmad (2003); Rabab’ah (2005); Huwari and Abd Aziz (2011), Salem (2007), Waston (2007), and Erkan and Saban (2011), the ESL students in their studies clearly encountered serious levels of writing anxiety in English that negatively affected their performance. A study conducted by Huwari and Aziz on 103 Jordanian graduate students using the EWAT indicated that the participants experienced high levels of writing apprehension that needed to be remedied.

Al-Ahmad (2003) used the WAT in a study of 426 L1 and L2 participants. The findings confirmed the researcher's hypothesis that the ESL/EFL student faced considerable hindrances in
learning writing. He concluded his article by calling writing apprehension “a real problem” that is facing our students daily, and recommended that solutions should be applied to reduce writing anxiety. A similar tool was used by Salem (2007) on Jordanian participants, and the findings, supported by many authors, showed that there was a real problem to be solved in the future.

Results like the above led me to hypothesize that students in my study would report high writing anxiety. After all, the level of English skills required in order to perform well in their college academic science programs was far beyond that which they learned in high school. There are several possible explanations for why the students had only moderate anxiety toward English writing. One probable reason was that the Saudi instructors, knowing the students' level of English education was not very strong, did not expect excellent writing and based their evaluation on the ideas of the writing rather than the quality of writing. Therefore, the students' anxiety may have been related more to the scientific course rather than to the writing itself.

If so, it could be assumed that Saudi students attending English-speaking universities in the U.S. and elsewhere experience more writing anxiety than those at Saudi universities, because the performance expectations are much higher. Furthermore, evaluation by the science instructors at Qassim University was based on several projects that the students needed to complete to pass the course, so the pressure on science students to perform well in English per se was probably less than the pressure on students in the art college, where writing may be the most important skill to master.

**Writing Anxiety Among the Three Science Groups**

Another hypothesis raised by the researcher was that the preparatory year students would experience more writing apprehension than the two other groups, engineering and pharmacy. The reasons for this expectation were: (a) most preparatory year students are freshmen, who
normally need time to adapt to the higher academic standards of college, (b) these students are required to register for a variety of specialized and non-specialized courses, some of which might be non-preferred subjects for them, (c) they are new to this concentration on the English language as the language of written and oral communication, and finally (d) they are new to the intensity of being evaluated through their performance in English as the only means of written communication.

While my hypothesis appeared to be correct when the preparatory students were compared to the pharmacy students, it turned out to be incorrect when they were compared with the engineering students. Perhaps the preparatory students, being younger and newer to college, were more flexible and eager to pursue their career, whereas the engineering students felt pressured to excel in science, and any deficiency in English was getting in the way.

**Sources of Writing Anxiety**

The participants of this study not only expressed their feelings toward writing in English on the EWAT, but also tried to describe the cause of their writing anxiety in their own words through the open-ended question. Most of the responses, differently articulated, clustered around the weakness of previous education as the reason behind their writing apprehension. Some others considered poor confidence in learning the English language to be a cause of their writing anxiety. A few participants looked at the teacher’s evaluation as the reason for anxiety. Finally, one participant found scientific terminology to be a source of writing apprehension.

This study shared Latif's sources of anxiety (2007), which started with the poor knowledge of the English language, then discussed the second element, which was low confidence in learning the English language, and third, the teacher and classmates’ evaluation of the student's English writing. In support of Latif’s view, Rabab'ah’s (2005) study attempted to
report on Arab college students' communication problems in learning the English language. She compared the level of English education among English programs in Jordan, UAE, Oman, and Saudi Arabia, and concluded that the level of performance was dramatically low. One of the most important factors was the weakness of Arab education in English.

Her research supported Suleiman’s article (1983), which pointed to problems that might hinder the progress of Arab universities, such as "inadequate mastery of the four language skills; namely listening, speaking, reading and writing." Zughoul's (1987) study added that students should learn the English language by practice. Rabab'ah (2005) concluded her article with some suggestions; one of them was that, except for the Arabic courses, knowledge should be taught in English, and that would contribute to students' mastery of the English language.

**Limitations of the Study**

This study aims to examine students' educational experiences in academic writing at Qassim University, which may be considered a micro-image of other universities in Saudi Arabia, since they share similar cultural values and educational background. Like many other studies, the study in hand has some limitations that could impact the findings. One of the widely encountered limitations is that although extensive research has been carried out on writing anxiety in the L1 and L2, no study has examined the Saudi Arabian context. Therefore, I had no well-matched research base from which to build my ideas about academic writing among college students in Saudi Arabia.

The second limitation is that some Arab and international countries might not benefit from my research if they do not share Saudi educational experiences. The results of this study may not be relevant to other countries, which could reduce the opportunity to propagate this research worldwide. The third limitation is that this research focuses solely on groups of people
who are in the science fields. Therefore the results might benefit people in the sciences to the exclusion of those in the humanities and arts.

The fourth limitation is that a study of only one university, Qassim, may not be broad enough to extrapolate its results to the more than 30 other Saudi Arabian universities. The fifth limitation is that the tool of this study merely consists of a survey. Perhaps adding interviews and pre- and post-writing samples to the survey would offer a better and more accurate chance to assess participants' feelings. The final limitation is the possibility that students need to feel more secure during the survey to candidly articulate their feelings about their writing apprehension.

**Suggestions for Future Research**

Writing issues in Saudi Arabia have rarely been examined, so these findings are considered basic and there is still a need for further research and discussion in this area. Although this study examined a considerable number of participants at Qassim University and the results were different form the researcher’s expectations, future studies should be conducted to validate or invalidate the findings of this study. There is a need to measure the writing anxiety among students from different fields, contexts, backgrounds, and experiences in order to gain a more accurate picture of Saudi students’ apprehension in written English. The moderate feeling of anxiety toward L2 writing could be studied more deeply by comparing and contrasting students with the same background in different schools, such as Saudi students attending American schools versus Saudi universities. In addition, future research should be conducted to examine the writing anxiety among other Saudi groups, such as women who are in science colleges or students in the arts, to make a comparison between the results of the different studies.

Another approach would be to consider whether this study is important in terms of identifying the reasons why the level of writing anxiety was only moderate for these students, in
case these circumstances could be applied to benefit students in high-anxiety contexts. Future researchers could compare and contrast different or similar results to find solutions to L2 writing anxiety.

A further recommendation is to conduct a study that uses more or different instruments to confirm the results in this study and make a possible generalization. Last but not least, it is recommended that a similar study should examine the question of English writing anxiety in a longitudinal way to gain more clarity on the best solution for writing apprehension.

**Ramifications of the Findings**

The findings were remarkable and interesting, since two of the hypotheses turned out to be the opposite when examined. Although these results were not supported by other reviewed studies, the fact that they were exceptional may help similar students to feel optimistic toward their writing in English. Perhaps the results of the study will also encourage students to feel more confident in their writing, and the more confident a student feels, the less anxiety they have toward English composition. With constant practice in English writing inside and outside the department, students will master this skill in a short time.

The participants who completed the survey lived in Saudi Arabia, where the English language is considered foreign. So, they may feel disappointed and anxious when they study abroad, especially in the United States or the UK, because the standards may be more strict and formal than they were prepared to face. In order to avoid anxiety in that situation, students should work hard to become familiar with academic English writing, and, moreover, practice the written form with professionals who can help.
The Moderate anxiety in Writing

What factors might explain the students’ generally moderate level of writing anxiety? The following exploratory remarks are based on researcher speculations and not on the findings of this study. One possible reason why the science students held a moderate level of writing apprehension could be that native and ESL teachers and instructors in the sciences may prefer to evaluate student writing based on their ideas as specialized students, rather than on spelling and grammar, which could significantly reduce writing apprehension. Second, science teachers may not expect high-quality writing from the EFL students and perhaps do not check the students’ assignments as rigorously in terms of English errors as do instructors in the English department, which might lessen the science students’ apprehension.

Third, in Saudi Arabia foreign teachers and professors are usually given a one-year contract with the university. The stability of an instructor is not guaranteed if he/she causes problems with tough grading. Therefore, students expect foreign teachers to help them and to be nice even if the students do not perform well, so they may be more relaxed about their English. Fourth, some students may receive help from a tutor or a friend to complete their assignments, which in turn could slightly drop the level of anxiety when it comes to writing. Fifth, English used in science classrooms may be relatively easy compared to other fields, because EFL science is usually direct and clear. Sixth, the survey used to measure writing anxiety may be too simplistic to reveal the true levels of apprehension, and instead interviews could be more accurate. Finally, writing anxiety could be low because the students do not have major problems in English writing and are therefore more confident. Finally, it is very important to shed lights on the need for more researches on the reasons of why the students feel moderate writing anxiety in the college level.
Conclusion

This study documents students as having an insignificant level of writing anxiety when learning science through a foreign language. However, when anxiety mounts to a hindrance, it should be presented as a problem and hopefully solved. Although this study has some limitations, it took the lead in empirically examining the structure of ESL/EFL students’ anxiety in writing in English. The findings of this study apply not only to the question of anxiety among students in the scientific fields, but also provide a basis for future studies to build upon to discover more language hindrances and help students to overcome these obstacles. It is hoped that with more research on language learning, specifically writing skills, students will feel more confident in their skills and willing to write with less anxiety.
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Paper presented at annual conference on College Composition and Communication, Washington D. C.


Ucgun , D. (2011). The study on the writing anxiety levels of primary school 6, 7 and 8th year students in terms of several variables. *Educational Research and Reviews*, 6(7), 542-547.


Appendix A: English Writing Apprehension/Attitude Test (English version)

The Daly-Miller Test

Note: Underneath each Daly-Miller statement, I have inserted the version of the statement that I used, which was altered for EFL writers. (The Saudi students received these statements in Arabic.)

Your name: _____________________________________________

Select from 5 to 1, 5 is Strongly Disagree and 1 is Strongly Agree.

Remember: There are no correct answers, only give your honest response to each item. Thank you for your participation and send me your comments!

5 Strongly Disagree 4 Disagree 3 Uncertain 2 Agree 1 Strongly Agree

1) I avoid writing.
   I avoid English writing.
   5   4   3   2   1

2) I have no fear of my writing's being evaluated. (-)
   I have no fear of my English writing's being evaluated.
   5   4   3   2   1

3) I look forward to writing down my ideas. (-)
   I look forward to writing down my ideas in English.
   5   4   3   2   1

4) I am afraid of writing essays when I know they will be evaluated. (+)
   I am afraid of writing essays when I know they will be evaluated.
   5   4   3   2   1

5) Taking a writing course is a very frightening experience. (+)
   Taking a writing course is a very frightening experience.
   5   4   3   2   1

6) Handing in a composition makes me feel good. (-)
Handing in an English composition makes me feel good.

(7) My mind seems to go blank when I start to work on my composition. (+)

Expressing ideas through writing seems to be a waste of time. (+)

I would enjoy submitting my writing to journals for evaluation and publication. (-)

I like to write down my ideas. (-)

I feel confident in my ability to express my ideas clearly in writing. (-)

I like to have my colleagues read what I have written. (-)

(13) I'm nervous about writing. (+)

I'm nervous about English writing.
5 Strongly Disagree 4 Disagree 3 Uncertain 2 Agree 1 Strongly Agree

(14) People seem to value what I write. (-)

People seem to enjoy what I write in English.

5 4 3 2 1

(15) I enjoy writing. (-)

I enjoy English writing.

5 4 3 2 1

(16) I never seem to be able to write down my ideas clearly. (+)

I never seem to be able to write down my ideas clearly.

5 4 3 2 1

(17) Writing is a lot of fun. (-)

Writing in English is a lot of fun.

5 4 3 2 1

(18) I expect to do poorly in writing. (+)

I expect to do poorly in composition classes even before I enter them.

5 4 3 2 1

(19) I like seeing my thoughts on paper. (-)

I like seeing my thoughts on paper.

5 4 3 2 1

5 Strongly Disagree 4 Disagree 3 Uncertain 2 Agree 1 Strongly Agree

(20) Discussing my writing with others is enjoyable. (-)

Discussing my English writing with others is enjoyable.

5 4 3 2 1
(21) I have a terrible time organizing my ideas in writing. (+)

I have a terrible time organizing my ideas in a composition course.

5 4 3 2 1

(22) When I hand in writing, I know I'm going to do poorly. (+)

When I hand in a composition, I know I'm going to do poorly.

5 4 3 2 1

(23) It's easy for me to write good papers. (-)

It's easy for me to write good compositions.

5 4 3 2 1

(24) I don't think I write as well as most other scholars. (+)

I don't think I write as well as most other people.

5 4 3 2 1

(25) I don't like my writings to be evaluated. (+)

I don't like my compositions to be evaluated.

5 4 3 2 1

(26) I'm not good at writing. (+)

I'm not good at English writing.

5 4 3 2 1

(27) From your point of view as a science specialist, what is the source of any writing anxiety that you have? (e.g. because of the teachers' evaluation, lack of self-esteem, past education)
Appendix B: English Writing Apprehension/Attitude Test (Arabic version)

القلق نحو الكتابة في اللغة الإنجليزية

هذا البحث يهدف إلى معرفة مستوى القلق لدى عينة من طلاب جامعة القصيم المتخصصون في الأقسام والكليات العلمية

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<td>أنا لا أشعر بالخوف في تقييم مستوى الكتابة الإنجليزية لدي</td>
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<td>أنا أغلق في كتابة المقال باللغة الإنجليزية عندما أعلم أنه سيُقيم</td>
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<td>أخبارنا مقالات في كتابة اللغة الإنجليزية هي مثيرة مقلقة جدا</td>
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<td>عندما أبدأ بالكتابة باللغة الإنجليزية، يصبح عقلني خاليا من الأفكار</td>
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الرجاء التضليل على خانة أوافق بشدة للتأكد من آلية التضليل.

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يرجى ملاحظة أن جميع الإجابات هي تعبير عن الأفكار الشخصية للمؤلف، وقد يكون هناك بعض التحيزات الشخصية. إذا كنت ترغب في مزيداً من المعلومات حول هذا البحث أو هناك أي أسئلة فلا تتردد بالتفاوض مع الباحث على البريد الإلكتروني المزود أدناه:

writinganxiety@gmail.com
Appendix C: Consent Form

Writing Anxiety among Saudi EFL Students in Science Colleges at Qassim University.

Informed Consent Form

You are invited to participate in this research study. The following information is provided in order to help you make an informed decision whether or not to participate. If you have any questions please do not hesitate to ask. You have been invited to participate because you are either a faculty member or a student in a scientific field of study at Qassim University.

The purpose of this study is to measure the amount of anxiety among science students and faculty in written literacy in English. The outcome of this project will be considered valuable in order to develop confidence among ESL learners and scholars in science colleges in the 21st century. Participation in this study will require approximately 20-30 minutes and is not considered a part of any course you are taking at Qassim University. You will be asked to fill in an online survey to measure the amount of anxiety in written literacy in English among science college students and faculty.

Your participation in this study is voluntary. You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigator. Your decision will not result in any loss of benefits to which you are otherwise entitled. If you choose to participate, you may withdraw before or during the survey by simply closing the web browser and not participating in the study. Note that if you choose to participate, your information will be held in strict confidence and will have no bearing on your academic standing in current or future courses. The information obtained in the study may be published in scientific journals or presented at scientific meetings but your identity will be kept strictly confidential.

If you would like further information about this project, or if you have any questions, please contact by e-mail or by phone (Contact information listed below).

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Project Co-Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandar Aljafen</td>
<td>David Ian Hanauer, PhD</td>
</tr>
<tr>
<td>MA student in TESOL</td>
<td>Professor of English</td>
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<tr>
<td>English Department</td>
<td>English Department</td>
</tr>
<tr>
<td>212 Opal Lane</td>
<td>110 Leonard Hall</td>
</tr>
<tr>
<td>Indiana University of Pennsylvania</td>
<td>Indiana University of Pennsylvania</td>
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<tr>
<td>Indiana, PA 15705</td>
<td>Indiana, PA 15705</td>
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<tr>
<td>Phone: (571) 315-5197</td>
<td>Phone: (724) 357-2261</td>
</tr>
<tr>
<td>Email: <a href="mailto:nxwq@iup.edu">nxwq@iup.edu</a></td>
<td>Email: <a href="mailto:David.Hanauer@iup.edu">David.Hanauer@iup.edu</a></td>
</tr>
</tbody>
</table>
This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

VOLUNTARY CONSENT FORM

I have read and understand the information on the form and I consent to volunteer to be a subject in this study. I understand that my responses are completely confidential and that I have the right to withdraw at any time. I have received an unsigned copy of this informed Consent Form to keep in my possession.

Name (PLEASE PRINT) _________________________________

Signature____________________________________

Phone number where you can be reached____________________

Best days and times to reach you__________________________

I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, have answered any questions that have been raised, and have witnessed the above signature.

Date: __________________________________________

Investigator's Signature ___________________________
PLEASE KEEP THIS COPY FOR YOUR RECORD

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I have read and understand the information on the form and I consent to volunteer to be a subject in this study. I understand that my responses are completely confidential and that I have the right to withdraw at any time. I have received an unsigned copy of this informed Consent Form to keep in my possession.

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Date: ______________________________

Investigator's Signature___________________________