Influence of Language Learning Anxiety on L2 Speaking and Writing of Filipino Engineering Students

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ABSTRACT

Feelings of anxiety, apprehension, and nervousness remain a prevailing phenomenon in learning a second or a foreign language. This explanatory sequential research examined the influence of language learning anxiety on students' second language (henceforth L2) writing and speaking performance. A total of 162 students in an engineering University in Manila, the Philippines participated in the initial quantitative phase, in which they accomplished a self-developed scale adapted from Horwitz, Horwitz and Cope's (1986) Foreign Language Classroom Anxiety Scale (FLCAS) to fit the context of the present investigation. Speaking and writing scores from an institutional English language test were also used as measures for the outcome variables. The analyses of variance yielded significant results for both anxiety on speaking [$F(2,162)=43.35$; $p=0.00$; $\eta_p^2=0.35$] and anxiety on writing [$F(2,162)=10.73$; $p=0.00$; $\eta_p^2=0.12$]. The findings on the influence of language learning anxiety on speaking corroborate previous studies that found high levels of anxiety to have debilitative impact on L2 speaking. Interestingly, however, the influence of anxiety on writing reflects the less frequent facilitative impact of anxiety on language abilities found in a very small number of studies in the literature. Therefore, in the consequent, qualitative phase, the researchers conducted semi-structured interviews among nine, purposefully selected respondents and focused on the factors explaining the dissimilar influence of anxiety on L2 speaking and writing. Results exposed the double-edged nature of anxiety within the study's context. On one hand, social comparison-instigated anxiety debilitated speaking task performance. On the other, grade anxiety facilitated constant correction, which aided the engineering students in writing task performance. Besides implication for research, the pedagogical implications of the results in relation to teaching engineering students as learners of English are provided.

Keywords: language learning anxiety; facilitative anxiety; debilitative anxiety; engineering students as learners of English; explanatory sequential

INTRODUCTION

Researchers and language teachers have traditionally been interested in the idea that anxiety inhibits achievement in learning a second or a foreign language (Horwitz 2001). Recent researchers, however, report more positive perceptions toward certain manifestations of anxiety and their dynamic relationship to performance in learning EFL (W. Zhang & Liu 2013). In this paper, the researchers systematically explored the influence of language learning anxiety on the speaking and writing performance of engineering students as learners of English as a second language (L2) in a University in Manila, the Philippines. The aim was carried out through a mixed-methods, explanatory sequential research design.

A huge body of research has documented the debilitative nature of anxiety in learning a second or a foreign language (Ali 2015, Dewaele & Al-Saraj 2015, Dewaele & Ip 2013, Gerencheal 2016, Gomari & Lucas 2013, Kurt & Atay 2007, Shao, Yu & Ji 2013). However,

other studies found that anxiety might, in fact, carry a facilitative or enhancing influence on language learning performance (Tsai & Chang 2013, W. Zhang & Liu 2013). There had also been efforts to trace the sources of language anxiety among engineering students (Khunnawut 2011, Min & Rahmat 2014).

Needless to say, the present study was theoretically informed by Horwitz, Horwitz, and Cope's (1986) theory on foreign language anxiety, which remains to be the most widely used theory on language classroom anxiety research. In her article, Horwitz (2001) explains anxiety as the 'subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the autonomic nervous system' (p. 113). When this anxiety is limited to the language learning setting, it falls into the category of 'specific anxiety reactions' (Horwitz, Horwitz & Cope 1986, p. 125). Horwitz et al. further argued that this 'situation-specific anxiety in response to language learning has been found to be largely independent of other types of anxiety' (Horwitz 2001, pp. 114-115).

The possibility that a certain level of anxiety could drive language learners advantageously (Ali 2015) remains to be an interesting area that warrants further research. Particular attention should be paid in contexts where the double-edged nature of language learning anxiety might be illuminated. The variety of methodological approaches espoused in language learning anxiety research, since the development of the Foreign Language Classroom Anxiety Scale (FLCAS), revealed the dynamic nature of anxiety and its intricate connectedness to context.

In this study, the researchers queried on the impact of language learning anxiety on writing and speaking performance in the context of engineering students as learners of L2 English. Language learning research in similar contexts (Borlongan & Quinto 2015, Khunnawut 2011, Min & Rahmat 2014, Quinto 2015, Quinto & Castillo 2016) have led to interesting insights, given that this group of learners generally would 'attend more to technical subjects, and less to non-technical courses' (Macayan & Quinto 2015, p. 68), such as Academic English.

The aims, then, were two-fold: first, the researchers examined the individual influence of language learning anxiety on the L2 writing and speaking of the participants; and second, qualitatively analyse the dissimilar impacts of anxiety on two different language performance tasks. The objective was to gain insights into the role that anxiety plays in engineering students learning English as an L2.

REVIEW OF RELATED LITERATURE

Second language researchers and theorists have long been at a consensus that language learning and anxiety are related to each other. Further, research in language learning anxiety proceeded with considerable organization and focus ever since Horwitz, Horwitz and Cope (1986) developed the Foreign Language Classroom Anxiety Scale (FLCAS). FLCAS has since been the most widely used tool in investigating language learning anxiety and its influence on a number of language learning variables. Studies on language learning anxiety had since mostly adopted FLCAS (Ali 2015, Baharuddin & Rashid 2014, Dewaele & Ip 2013, Gerencheal 2016, Gomari & Lucas 2013, Gopang, Bughio & Pathan 2015, M. Liu & Jackson 2008, Shao et al. 2013). Others, however, have adapted the scale within the context of investigation (Cheng 2002, Dewaele & MacIntyre 2014, Raju & Eng 2012).

Others, at present, attempt to develop language skill-specific scales and measures to ascertain the influence of anxiety on specific language skills and contexts, such as on Oral English Test (W. Zhang & Liu 2013), Arabic Foreign Language Anxiety Questionnaire (AFLAQ) (Dewaele & Al-Saraj 2015), and Second Language Writing Anxiety Inventory

(SLWAI) (Cheng 2004). More recently, others have also triangulated data from quantitative and qualitative sources (Baharuddin & Rashid 2014, Dewaele & MacIntyre 2014, Gerencheal 2016, Kurt & Atay 2007, Özturk & Çecen 2007).

With the variety of methods through which researchers ventured into research, there has been prima facie evidence that anxiety generally significantly influences language learning. For debilitative anxiety, research revealed that speaking (Ali 2015, Heng, Abdullah & Yusof 2012) and writing (Kurt & Atay 2007, Tsui 1996, H. Zhang 2011) in a foreign language triggers this specific anxiety reaction. When students are less anxious, they fared better in self-rated language proficiency (Dewaele & Al-Saraj 2015, Dewaele & Ip 2013, Shao et al. 2013), language motivation (Gomari & Lucas 2013, H. Liu 2012, H. Liu & Chen 2015), students' English achievement (Gerencheal 2016), and test performance (Salehi & Marefat 2014), sometimes to an extent that it mediates relationships between emotional intelligence and self-rated proficiency (Shao et al. 2013). However, research has also demonstrated that anxiety, at times, brings gains to subtle aspects of language learning, such as instrumental motivation (Tsai & Chang 2013) and facilitative anxiety perceptions (W. Zhang & Liu 2013), and forms an important element of language learning success (Heng et al. 2012). Along this line, in L2 writing, it could be that constant grammar correction of highly anxious students, in fact, improves writing task performance (Silva 1993). The 'reassessment of the influence that writing anxiety exerts on classroom performance' had been previously encouraged (Gkonou 2011).

A strong command of spoken and written English language skills has been viewed 'as an opportunity in the engineering field to advance towards becoming a global engineer' (Kassim & Ali 2010, p. 168). Efforts to promote language proficiency across the curriculum have inadvertently given rise to technical students' feelings of nervousness when learning English (Dannels 2003). In engineering fields, the need for effective English language skills prompt schools to innovate curricula that shall address the English language skills of a 'global engineer' (Riemer 2002, p. 91). However, the impacts of these efforts trickled down among engineering students who contend with anxiety coming from language learning.

A myriad of sources has been found to contribute to engineering students' feelings of anxiety in language classes, including 'demanding and provocative evaluation panels, limited technical knowledge and barriers in students' English language proficiency' (Radzuan & Kaur 2011, p. 1436). The language learning anxiety of engineering students as learners of English as a foreign language has been investigated in relation to a range of factors, such as gender, experience of speaking English with foreigners, and duration of English learning (Khunnawut 2011). It has also been reported that engineering students experience somatic anxiety when learning English (Min & Rahmat 2014). This most common form of language learning anxiety refers to 'one's perception of the physiological effects of the anxiety experience, as reflected in increase in arousal of unpleasant feelings, such as nervousness and tension' (Cheng 2004, p. 316).

Previous studies clearly point only to the debilitative impact of language learning anxiety in the context of engineering students as learners of English. Whether a systematic examination would accrue similar or different results pertaining to the influence of anxiety on actual performance of engineering students as learners of English remains wanting. In this study, the researchers explored the phenomenon in relation to Filipino engineering students as learners of English as a second language in an engineering university in Manila, the Philippines.

RESEARCH AIMS

The purpose was two-fold. First, the researchers determined the influence of language learning anxiety on the L2 speaking and writing performance of 162 Filipino engineering students. Second, they carried out semi-structured interviews among nine purposefully selected respondents to gain a more detailed understanding of the quantitative results through qualitative analysis and data integration.

In the first phase, the aim was to test the predictive power of the independent variable, i.e., language learning anxiety, on the dependent variables, i.e., second language (L2) speaking and writing performance. Following prima facie evidence in the literature (Ali 2015, Dewaele & Al-Saraj 2015, Dewaele & Ip 2013, Gerencheal 2016, Gomari & Lucas 2013, Kurt & Atay 2007, Shao, Yu & Ji 2013), the researchers hypothesised that language learning anxiety negatively predicts both L2 speaking and L2 writing, i.e., as the level of anxiety rises, performance in either tasks becomes poorer.

In the second phase, nine engineering students were purposefully chosen based on their variable-related profiles related to the quantitative results. Semi-structured interviews were conducted to gain an in-depth understanding of factors that contribute to the nature of language learning anxiety as revealed by the quantitative results. Understandably, the research question revolved around context-specific experiences related to the respondents' feelings of anxiety during writing and speaking performance. The aim was not to generalise. Following the focus of previous studies (Khunnawut 2011, Min & Rahmat 2014), the researchers were simply interested in factors that might explain language learning anxiety in engineering students as learners of English.

METHODS

In this study, the researchers used Creswell's (2014) mixed methods, explanatory sequential design, where 'initial quantitative data results are explained further with the qualitative data' (p. 44). It is one of two sequential research designs, which are becoming increasing useful in applied linguistics research (Macayan, Quinto, Otsuka & Cueto 2018, Quinto, 2018). According to Creswell (2014), this explanatory sequential design typically appeals to individuals with a strong quantitative background. The purpose is 'to understand data at a more detailed level by using qualitative follow-up data to help explain a quantitative database, such as a survey' (O'Cathain, Murphy & Nicholl 2007 in Creswell 2014, p. 177). Overall, the method is akin to an earlier study, where procedures were discussed in greater detail (Macayan et al. 2018). Nonetheless, the design used in each specific phase, participants and sampling, data gathering tools and procedures, and data analyses are discussed in the succeeding sections.

QUANTITATIVE PHASE

In the initial quantitative phase, the researchers used Johnson's (2001) predictive design. This design aimed at determining the influence of certain variables called predictors (i.e., language learning anxiety) to a set of criterion variables (i.e., L2 speaking and L2 writing) without applying manipulation procedures. Participants were recruited from a college setting, which is most suitable when assessing ability-related variables (Brookhart, Walsh & Zientarski 2006), as in the case of speaking and writing performance.

In the quantitative phase, 162 participants (male = 112; female = 50) were recruited from an engineering University in Manila, Philippines. The University is a premiere

engineering University, having achieved the distinction as the first Southeast Asian University with accredited programs by the distinguished United States-based Accreditation Board for Engineering and Technology, Inc. (ABET). The participants were freshman engineering students enrolled in English for Academic Purposes (EAP), which is the initial language course required in the curriculum. Their ages ranged from 16-21 at the time of data gathering. They were purposefully sampled based on enrollment in the aforementioned English language course.

Two types of data gathering instruments were used in this phase: a scale for measuring speaking and writing anxiety and performance tests for measuring L2 performance. To measure the independent variable, the researchers used FLCAS (Horwitz et al. 1986) as a basis for the development of a 28-item L2 Speaking and Writing Anxiety Scale (L2SWAS) following the procedures for psychometric test development (Morgado, Meireles, Neves, Amaral & Ferreira 2017). A separate sample of 180 participants from the same University and who were also enrolled in the same EAP course participated in the test development phase. While FLCAS remains to be the most widely used tool for measuring language anxiety, the development of L2SWAS appeals to the context of the Philippines, where English is taught and learned, not as a foreign language, but as an L2. Also, while FLCAS allows a measure of three performance anxieties, namely communication apprehension, test anxiety, and fear of negative evaluation (Horwitz et al. 1986, p. 127), the researchers simply wanted to peer through the impacts of specific speaking and writing performance anxieties, without going deeper into factors that constitute these performance anxieties in an L2.

The initial version of L2SWAS consisted of 60 items, while the final version consisted of 28 items. Participants rated the degree of 'trueness' of statements using a four-point Likert scale. The speaking anxiety component of L2SWS consisted of 14 items. Sample statements include '*When I speak English, I feel badly criticised by people who speak the language better,*' and '*When I speak English, I would often stutter when assessed by the teacher.*' The writing anxiety component also consisted of 14 items. Sample statements include '*When I write in English, I feel nervous and pressured,*' and '*When I write in English, I constantly feel that I would fail in the assessment.*' The final version of the scale was reliable with an overall internal consistency of α= .96.

For the dependent variables, the researchers used data from the ongoing entry-level speaking and writing tests, which have been set to coincide with data gathering. All freshman students in the University take these tests as entry requirement in their EAP class. Entry-level English language test scores for speaking and writing are given to freshman students as they enroll in EAP and take the tests. For L2 speaking, the measure involved students participating in a four-student English conversation intended for them to engage in a meaningful exchange on a topic. The topic given was '*Is there a generation gap between the young and the old.*' They were given five minutes to prepare and were allowed to carry out the spontaneous group conversation for at least 15 minutes. For L2 writing, the students wrote an essay on '*The one thing I'd like to change in this world.*' Their scores in either test range from 1.00 (lowest) to 5.00 (highest) based on rubrics that have been in use in the University for around ten years.

Three English language teachers, whose students were the participants, were recruited to participate in the research. Particularly, their task was to provide performance scores for the dependent variables. Endorsements were secured from different coordinators to communicate the research to the teachers and secure consent. To ensure consistency of speaking and writing scores, the language teachers recruited were only those who had participated in the most recent language assessment calibration. During this calibration, a trained language scale assessor from the University's language center sat down with the

teachers in actual classes for speaking calibration to assess students as they deliver speaking tests. A designated room was used for the writing calibration, where teachers were given sample written outputs from students. The goal was for the teachers to achieve an assessment that is within an acceptable range of the standard score, which, in this case, is that of the language scale assessor's. The teachers and the assessor discussed the scores they gave and shared ideas about how they assessed the student outputs in that way. The idea was for the pool of language teachers to use the assessment rubrics and scoring system with greater consistency across cases and language teachers.

After all data for the initial phase had been gathered, quantitative analysis followed. To this end, the analysis of variance (One-way ANOVA) was used. ANOVA 'is a special case of the general linear regression model' used to determine 'whether a particular factor has an effect on the dependent variable of interest' (Lattin, Carroll & Green 2003, p. 386).

QUALITATIVE PHASE

For the succeeding qualitative phase, the aim was to provide further support for some interesting aspects of the initial quantitative results. After identifying the aspects of quantitative results that needed further explanation, the interview method followed. Semi-structured interviews served as the data gathering technique. Here, the researchers collected qualitative data by setting up a situation that allows a respondent the time and scope to talk about their opinions on a subject. The objective was to understand the respondents' point of view rather than make generalizations about behavior (New York University, n.d.).

The confirming case sampling technique (Cohen & Crabtree 2006) was deemed most suitable for the selection of respondents in the follow-up qualitative phase. The researchers recruited respondents with high levels of anxiety and varying performance scores (low, average, high). The researchers necessarily went back to the raw quantitative data and identified respondents with these profiles. A similar process of seeking endorsements and consents was carried out prior the interviews. A total of nine respondents were identified and allowed consent for the interviews. Their ages ranged from 16 to 17 at the time of the interviews.

Semi-structured interviews were conducted over a span of seven days in June 2016. Each interview lasted for 20-30 minutes. All interviews were audio-recorded. Audio files were saved for the broad interview transcription that followed. The interview transcription procedure followed conventions, such as using computer support (Schmidt 2004), achieving a required degree of accuracy (Flick 2002 in Schmidt 2004), and undertaking 'corrective listening' (Hopf & Schmidt 1993 in Schmidt 2004). The output was material that was ready for coding.

After generating the interview transcripts, the researchers proceeded with the analysis of data beginning with data coding. Codes from a previous interview were necessary before the next interview. Thus, the material was coded immediately after data processing. Coding was carried out in the tradition of thematic analysis (Braun & Clarke 2006). After the last sequence of interview, transcribing, and coding, the researchers reviewed and finalised the themes to ensure that each identifies 'a feature of the data that appears interesting' (Braun & Clarke 2006, p. 18) and could be 'assessed in a meaningful way regarding the phenomenon' (Boyatzis 1998, p. 63).

To meet the ethical requirement of ensuring anonymity, the researchers shall refer to the 'Respondents' numbered 1 to 9, when presenting extracts of the transcript in the results.

RESULTS

Consistent with the sequential design, the researchers first present and discuss the results in the quantitative phase, and then the results of the qualitative phase are presented to provide in-depth understanding of the statistical results.

DOES LANGUAGE LEARNING ANXIETY INFLUENCE L2 SPEAKING AND WRITING PERFORMANCE OF FILIPINO ENGINEERING STUDENTS?

The impact of anxiety to the L2 learners' tasks performance were quantitatively analyzed in the first phase of this study, and the results revealed some notable differences. The reference points of differences in tasks performance of participants of varying levels of anxiety are the mean scores (and standard deviation) that they obtained across L2 speaking and writing tasks as presented in Table 1.

TABLE 1. Descriptive Analysis of Mean (SD) in L2 speaking and writing performance scores at three levels of anxiety

Anxiety Levels	L2 Speaking	L2 Writing
High	2.66 (0.82)	3.13 (0.97)
Average	3.25 (0.81)	2.92 (0.84)
Low	4.11 (0.89)	2.62 (0.46)

Note: highest maximum point = 5.00

Evidently, participants with varying levels of anxiety differed in terms of performance in both L2 speaking and writing tasks. Drawing some important inferences from the descriptive analysis, the impact of anxiety on L2 learners showed salient patterns of influence; specifically, language learning anxiety can be either debilitative or facilitative on L2 learning. It is debilitative when the trajectory of tasks performance decreases as the level of anxiety intensifies. On the other hand, it is facilitative when the tasks performance increases as anxiety level amplifies.

To test for the influence of anxiety on L2 tasks performance, the analysis of variance (One-way ANOVA) was used. In the one-way ANOVA, anxiety was used as the categorical predictor (i.e., high, average, and low) and the obtained mean scores in L2 speaking and writing tasks were the continuous dependent variables.

DEBILITATIVE IMPACT OF LANGUAGE LEARNING ANXIETY ON L2 SPEAKING

Table 2 shows the influence of anxiety on L2 speaking. It revealed that language learning anxiety indeed predicts the performance of Filipino engineering students in L2 speaking. The analysis of variance accrued a significant p-value, $F(2,162)=10.73$; $p=0.00$, and an acceptable effect size, $\eta_p^2=0.35$. With reference to the obtained p-value (*0.00 < .05) of one-way ANOVA, it indicates that the mean scores of participants in L2 speaking varied significantly across levels of anxiety i.e., high, average, and low.

TABLE 2. Influence of language learning anxiety on L2 speaking

Factor	SS	df	MS	F	p	η_p^2
Anxiety	11.14	2	5.57	10.73	*0.00	0.35
Error	84.10	162	0.53			

$p<0.5$; n = 162

In Figure 1, the nature of the influence of language learning anxiety on L2 speaking is revealed.
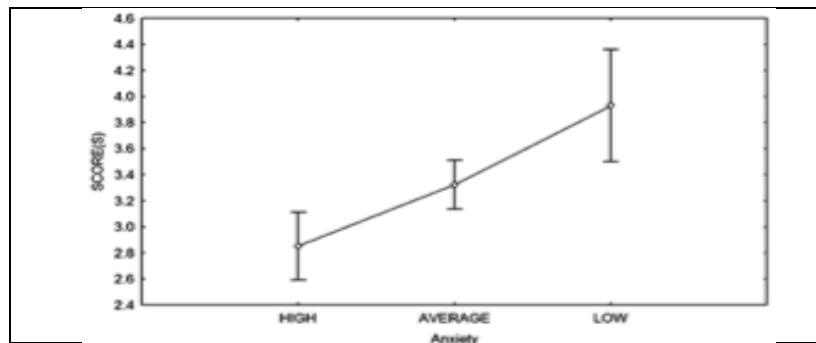
FIGURE 1. Debilitative impact of language learning anxiety on L2 speaking

Figure 1 shows the graphical representation of the influence of anxiety on L2 speaking. The graph clearly shows the negative influence (debilitative effect) of language learning anxiety on L2 speaking. Participants who had low anxiety in oral performance performed best in the group speaking task. The trend was clear: as the level of anxiety towards L2 speaking increased, performance scores became lower. As with the literature on the influence of language learning anxiety, among the paticipants in this study, anxiety was found to be debilitative on L2 speaking (Ali 2015, Gerencheal 2016, Salehi & Marefat 2014).

FACILITATIVE IMPACT OF LANGUAGE LEARNING ANXIETY ON L2 WRITING

One interesting statistical results is that of the influence of anxiety on L2 writing. Table 3 and Figure 2 present the results of the analysis of variance for the main effect of language learning anxiety on L2 writing of the engineering students.

Table 3 revealed that, as with L2 speaking, language learning anxiety also influenced the performance of the participants in the writing task, where they were asked to write a narrative essay. The result obtained from the analysis of variance was significant, $F(2,162)=9.50$ $p=0.00$, while the effect size was acceptable, $\eta_p^2=0.12$. As with the results on L2 speaking, the obtained p-value (*0.00 < .05) for L2 writing indicated that the mean scores of writing task performance significantly differed across levels of anxiety i.e., high, average, and low.

TABLE 3. Influence of language learning anxiety on L2 writing

Factor	SS	df	MS	F	p	η_p^2
Anxiety	7.83	2	3.91	9.50	*0.00	0.12
Error	66.79	162	0.41			

p<0.5; n = 162

In Figure 2, the nature of the influence of language learning anxiety on L2 writing is further revealed.
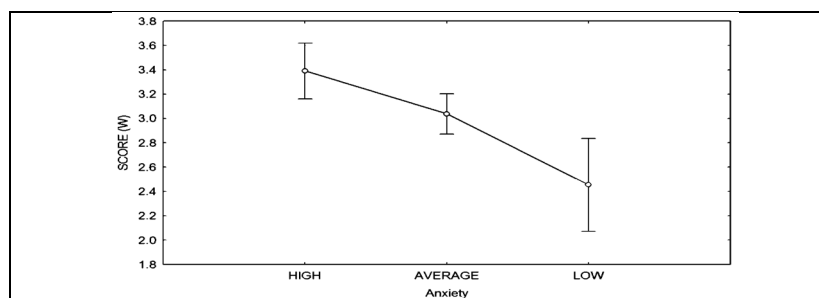

FIGURE 2. Facilitative impact of language learning anxiety on L2 writing

Figure 2 presents the influence of anxiety towards L2 writing. Interestingly, as for L2 writing, the significant relationship of language learning anxiety is positive (facilitative effect), unlike its influence on L2 speaking. Clearly, among Filipino engineering students, those who were highly anxious performed best in the writing task. Simply, as the anxiety of the participants lowered, the performance scores also lowered and, as the anxiety increased, the performance scores also became higher. This contrasts previous studies that claimed anxiety had a debilitative effect on writing (Kurt & Atay 2007, H. Zhang, 2011). The study presents a case for the less frequent facilitative impact of anxiety to language learning found only in a sample number of studies (Tsai & Chang 2013, Zhang & Liu 2013). Moreover, the findings point to direct positive influence of language anxiety on writing performance. Previous studies found anxiety was facilitative only as far as motivation (Tsai & Change 2013) and perceptions toward it (Zhang & Liu 2013).

Based on the quantitative findings, the researchers traced an interesting double-edged nature of language anxiety. At this point, it was necessary to follow through the quantitative analyses and focus on context-specific experiences that might explain the dissimilar impact of language anxiety on Filipino engineering students' L2 performance. Particularly, while anxiety had a debilitative impact on L2 speaking, i.e., as anxiety increased, performance scores decreased, it had a facilitative influence on L2 writing, i.e., as anxiety increased, performance scores also increased. It was therefore the purpose of the consequent, qualitative phase, to unearth context-specific experiences that can hopefully provide insights into factors that come into play in understanding the impact of language anxiety on performance.

WHAT CONTEXT-SPECIFIC EXPERIENCES EXPLAIN THE INFLUENCE OF LANGUAGE LEARNING ANXIETY ON L2 SPEAKING AND L2 WRITING?

The follow-up qualitative phase was specifically aimed at teasing out context-specific reasons why, in this context, speaking anxiety seemed more debilitative, whereas writing anxiety seemed to facilitate performance among Filipino engineering students.

SOCIAL COMPONENT IN SPEAKING MAKES L2 SPEAKING MORE ANXIETY-PROVOKING

Thematic analysis of semi-structured interviews revealed that the respondents attribute their anxiety towards speaking to specific experiences relating to the task performance. Based on the responses, one theme that emerged pertained to engineering students' recognition of social comparison during speaking tasks, something they also agree is absent in writing tasks. In Excerpts (1) and (2), the respondents explained how the thought of having people around them during a speaking task caused them to feel anxious.

> *(1)* *For speaking, I think that my classmates are what causes me to feel anxious since I always put in my mind that they will make fun of me for what I might answer.* (Respondent 1, 17)

> *(2)* *In speech, you feel that there can always be something that the people around you can use against you and mark you wrong.* (Respondent 2, 16)

The students felt as if they were being judged by their classmates. Excerpts (1) and (2) support the claim that the remarkably impactful, social component in speaking triggered feelings of anxiety, particularly when thinking that the people around the speaker would 'make fun' or would use what one said against them or mark them wrong.

In Excerpt 3, another respondent explained why he felt that the types of negative thoughts during speaking tasks could possibly affect his performance.

> *(3) Because in my opinion, insulting opinions of others cannot help the learning of a speaker so once a speaker hears an insult the speaker tends to speak poorly.* (Respondent 3, 17)

Respondent 3 divulged that, as for him, others' opinions have a direct effect, in that it makes the speaker 'speak poorly.' This specific anxiety reaction is triggered not only by the presence of their classmates who might send out negative opinions. Others also felt anxious because they wanted to create a certain impression to their professors. In Excerpt 4, one respondent did not attribute his anxiety to his classmates, but to his professor.

> *(4) I think the professor is what mainly causes me to feel anxious since I always put in my mind that he will grade me for what I say. So whenever I speak I want to make sure that my professor will look at me positively.* (Respondent 3, 17)

The social component in L2 speaking involved every stakeholder in the language learning process. Respondent 4 suggested that the social component in L2 speaking that provokes anxiety comes not from his classmates, but from his professor, and for a different reason. While others feel anxious about their classmates' judgment, this respondent felt anxious in speaking because of the feeling that he needed to satisfy the professor for a good grade and therefore, through the way he spoke, the aim was for the professor to look at him 'positively.'

It is to be noted that the social component in speaking that respondents report to have an impact on their performance is not found in writing task performance. When asked whether they feel anxious when writing, two of the most striking responses are Excerpts 5 and 6.

> *(5) I don't usually feel anxious when it's a writing task, unlike when speaking. I am calm on the fact that I could still modify the structures of my sentences unlike speaking in which you can't take back what you have already said.* (Respondent 4, 17)

> *(6) I don't really feel that there is something bothering me that much in writing because it is usually me and the paper and I have many chances of changing something I initially wrote. In speaking, that is not the case.* (Respondent 5, 16)

In Excerpts (5) and (6), the respondents manifested how the social component in speaking is not the same as in writing. For them, in writing tasks, they could still 'modify the structures of sentences' and they have 'many chances of changing' what they have previously written. Both, according to the respondents, are not the case as in speaking. This qualitative finding is akin to 'constant grammar correction' shown by highly-anxious student that improve writing performance (Silva 1993).

GRADE ANXIETY AND DELAYED FEEDBACK FACILITATE CONSTANT SELF-CHECK IN L2 WRITING

Another theme that emerged from the semi-structured interviews had to do with facilitative impact of anxiety in L2 writing. Earlier in Excerpts (5) and (6), respondents initially suggested that the absence of social comparison in writing allows them to work more loosely and provides them time and opportunity to modify or change their writing output. In Excerpts (7), (8) and (9), respondents revealed that the anxiety they experience in writing is, unlike in speaking, focused on grade anxiety, i.e., they are anxious about the grades they are going to receive. Interestingly, this brings several benefits in the performance of the task.

> *(7) Honestly, I also feel worried when my instructor gives us a writing task, because I don't want to get a low score. But I'm not as anxious in writing. Even if I'm worried I can relax after a while and then rewrite and revise my essay.* (Respondent 6, 16)

(8) Am I worried in writing? Yes, I'm worried about my grades. But I still like it better than speaking because I have the chance to think and think and think hard of what I wrote, and I have the chance to improve my grammar unlike in speaking. I really don't like speaking in front. (Respondent 7, 16)

(9) Once my teacher asked me to rewrite my essay and I realised I had to do well I was so worried but at the same time my fear of failing the task motivated me to check and recheck my essay multiple times. (Respondent 8, 17)

Excerpts (7), (8) and (9) clearly showed that most the respondents in the qualitative phase were also anxious in writing. However, in writing, they were anxious about the task for different reasons: getting 'low scores,' worry about their grades, and fear of failing the task. Hence, while social comparison is not an issue for the respondents, they also admitted that the writing anxiety they had was grade anxiety. Also, unlike in speaking, anxiety in writing for them acted to improve their task performance. Echoing Silva's (1993) claim that 'constant grammar correction' leads students to better task performance in writing, the engineering students themselves reported how their anxiety turned into a catalyst for rewriting and revising their essay (Excerpt 7), thinking hard and improving one's grammar in writing (Excerpt 8), as well as checking and rechecking their written output multiple times (Excerpt 9).

As it became apparent that the absence of social comparison and, indirectly, the delayed feedback shifted focus of anxiety from peer and teacher criticism (in speaking) to grade anxiety (in writing), the researchers probed whether delayed feedback in writing indeed facilitated the respondents' writing task performance and several respondents affirmed, as shown in Excerpt (10, (11) and (12).

(10) Yes, it helps a lot that I do not have to face my classmates when I'm writing, even if I'm wrong they will not know and I am still going to improve my work. (Respondent 3, 17)

(11) When I'm more relaxed, I work better. That's what I like more about writing, I'm not really very good at it but at least in writing I have longer time to think without worrying about what my classmates think. They will not see my work anyway. (Respondent 5, 16)

(12) I sometimes get really nervous and shaky when speaking especially when I see the reaction of my teacher. So I really like writing since I don't have to face my teacher and know from her face if I'm doing it right or wrong. (Respondent 9, 17)

Excerpts (10), (11) and (12) clearly contrast L2 speaking from L2 writing from the point of view of the engineering students. For them, anxiety that comes from immediate feedback of classmates and professors is debilitating, i.e., speaking. However, grade anxiety that focuses more on what they can do rather than what others think of them facilitates their performance of a task, i.e., writing. In Excerpt (10), for example, Respondent 3 admitted that it helps that he does not have to face his classmates in a writing task. He acknowledged that his classmates would not know if he commits a mistake, feedback would be non-existent, and he would take advantage of that to improve his written output further. Respondent 5 echoed the subjective impact of delayed feedback. For her, not worrying about what her classmates think for they would not see her work provides her with longer thinking time. She affirmed that her classmates' inaction toward her writing makes her like the writing task better than speaking. Finally, Excerpt (12) resonates the respondents' feeling toward delayed feedback in writing. Respondent 9 admitted that she sometimes becomes really nervous and shaky when speaking and this is due largely to her seeing the reaction of her teacher. Hence, she preferred writing better, owing it to not having to face her teacher and knowing immediately from the

teacher's face whether she is doing right or wrong. Her statement encapsulates the positive impact of delayed feedback in writing task performance.

Findings in the qualitative phase lend depth into further understanding the statistical results in the initial phase. In the first phase, language learning anxiety was found to be a significant predictor of both skills. However, while anxiety facilitates L2 speaking, it debilitates L2 writing. Incorporating the qualitative findings and context-specific experiences of engineering students sheds light into the dissimilar influence of anxiety on both skills. In this phase, it became apparent that the innately social element in speaking provokes a specific type of anxiety that triggers subjective feelings of being judged or criticised by classmates and teachers. Not only that, social comparison in speaking tasks was viewed as detrimental. For writing, the respondents were subjected to an anxiety triggered by their worries and fears about their grades. This specific anxiety, however, did not debilitate, but facilitated task performance, owing to the very minimal, almost non-existent, social element in writing. This allowed the respondents to engage in constant checking and multiple revisions in grammar and sentence structure to improve the final written output.

DISCUSSION

Anxiety has been largely viewed to debilitate various aspects of language learning except for a very limited number of studies that found its facilitative nature. In this explanatory sequential study, the researchers further provided insights into the intricate nature of anxiety in the language classroom, particularly its influence on the L2 speaking and writing of 162 Filipino engineering students in a large engineering school in Manila, Philippines.

The findings in the initial, quantitative, phase point to the double-edged nature of anxiety in this context. On one hand, anxiety was detrimental in the speaking task performance of the participants. Those who were more anxious were more likely to have performed poorer in the group speaking task. This debilitative impact of anxiety had had prima facie evidence in the literature (Gerenchael 2016, Ali 2015, Salehi & Marefat 2014). On the other hand, grade anxiety in writing did not have a debilitative impact on task performance, corroborating previous findings (Tsai & Chang 2013, Zhang & Liu 2013, Heng, Abdullah & Yusof 2012, Silva 1993).

The qualitative phase revealed that the respondents indeed experience "subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the autonomic nervous system" (Horwitz 2001, p. 113). However, this is corroborated by the results only as far as the influence of anxiety on speaking is concerned, where respondents reported that the social component integral in speaking indeed triggers subjective feelings of worry and fear about communicating their thoughts (Ali 2015). The respondents reported that this has been largely due to the presence of their classmates whom they worry would criticise or judge them and their professors to whom they hoped to create a certain positive impression. As for writing, the qualitative data suggested that the specific type of anxiety, i.e., grade anxiety, was helpful to them although they were still worried about the task, their worry was not so much on social comparison, but on how they would be evaluated and given a grade in the task. This, for the respondents, along with the natural delay of feedback in writing tasks, pushed them to repetitive checking and revising similar to 'constant grammar corrections' (Silva 1993). For many engineering students, it was apparent that grade anxiety in writing played a vital role in accomplishing the writing task (Heng, Abdullah & Yusof 2012).

CONCLUSIONS

After the explanatory sequential investigation of the influence of language learning anxiety on L2 speaking and writing of 162 Filipino university students, the researchers hoped to have enriched the literature with findings specific to this context.

In the initial quantitative phase, as hypothesised, language learning anxiety negatively predicted task performance in a group speaking task. It was found that higher levels of anxiety translated to poorer performance, while those who had lower anxiety levels performed better in speaking. However, in contrast with the hypothesis, anxiety positively predicted writing. The more anxious students were about the writing task, the better they performed. Students who exhibited lower levels of anxiety performed poorer in writing.

In the qualitative phase, the respondents revealed specific experiences that had the potential to explain the dissimilar impact of anxiety on L2 speaking and writing. For speaking, it was found that the social component in the task primarily debilitates the engineering students. They recognised that the more they thought of being judged or criticised by their classmates and the more they felt the need to create an impression towards their professor, which in the process, allowed them to see their professors' feedback, the more they became worried, afraid and anxious of the speaking task ahead of them. As for writing, grade anxiety was found to positively impact behavior of the students, as far as the specific type of anxiety motivated them to work hard, multiple times, in improving their writing output. It was also found that the delayed feedback, present in speaking but not in writing, contributed to the respondents' constant revising and rewriting to improve the grammar and sentence structures of their essay.

This study demonstrated both the debilitative and facilitative nature of anxiety that many researchers in the literature continue to debate about. Through a follow-up qualitative phase, the researchers delved into not only statistical results but also specific experiences that alone could explain why anxiety influences language learning processes the way it does in specific contexts.

As for the implications for research, the paper provided important insights about the language learning anxiety of Filipino university students. However, methodological improvements can further improve the understanding of the language learning anxiety among this group of participants.

First, the researchers recognise the need for further improvements in the measure for language learning anxiety, given that the L2 learning context of the current investigation potentially constrained some insights from the findings. This is due to Horwitz et al.'s (1986, in Horwitz 2001) position that foreign language anxiety is independent from other types of anxiety. Nonetheless, the researchers attempted to reconcile this potential constraint by developing their own measure following psychometric test procedures (Morgado et al. 2017).

It should be clear, however, that many other standard tests are available for measuring specific types of language anxiety. Two possible measures, Zhang and Liu's (2013) and Oral English Test Anxiety and Cheng's (2004) Second Language Writing Anxiety Inventory (SLWAI), could be used in measuring skill-specific anxiety and possibly arrive at more detailed results. Nonetheless, the scale used in measuring anxiety contained speaking and writing components in hopes of minimizing the potential constraint posed by measuring general anxiety reactions vis-à-vis the independence of language anxiety among other types of anxiety reactions (Horwitz et al. 1986).

The use of standardised tests and scales to measure language abilities can boost the explanatory power of future studies. The use of tests such as TOEIC, which is also implemented in the University, and possibly IELTS and TOEFL, is recommended. Despite this, it should be noted that the researchers made use of standardised English language task

and scoring scheme that have been in use in the university for more than ten years. Moreover, given that the investigation was situated within the context of engineering students as learners of English as L2, future researchers could opt for more challenging speaking and writing tasks. In this study, the researchers utilised performance scores from general academic English conversation and essay tests. It could be that data from technical oral presentations and writing technical reports could provide richer insights about how language anxiety, in fact, impacts engineering students' performance of technical tasks that require the use of language skills.

As for the implications for pedagogy, language teachers of engineering students as learners of English should concern themselves about how language learning anxiety aids or hampers language learning, given the assumption that these learners would not often pay as much attention to this non-technical course. They should also already set aside the idea that anxiety is always debilitating, since it appears that whether anxiety is debilitating or facilitating depends on the nature of the task and context. In the case of the engineering students as learners of English in this study, while speaking anxiety was found debilitative, writing anxiety, on the other hand, seemed facilitative in task performance.

Curriculum developers and language planners, in the process of preparing students in becoming 'global engineers,' may adapt various strategies that will engender language proficiency across the engineering curricula. It has been demonstrated that all students experience anxiety, but as far as the impact of anxiety on task performance, it has been found that engineering students reflected on their experiences differently. Thus, engineering students as learners of English must be given an opportunity to thrive in engineering curricula that provides both the right amount of support and enough degree of challenge for them to successfully navigate through the debilitative impact of language anxiety.

Crafting language teaching and learning interventions based on the premise that different students have varying levels of anxiety should be encouraged. The findings raise the question: 'at what level and in what tasks does anxiety in the engineering classroom facilitate language learning?' In this way, school administrators, curriculum planners and language teachers can bridge the gap between theory and practice related to language anxiety and engineering education, where the findings in this study should ultimately be put in place.

<div align="center">REFERENCES</div>

Ali, M. Q. (2015). Exploring classroom anxiety among Urdu EFL learners at secondary level in Pakistan. *International Journal of English and Education*, *4*(3), 318–325.

Baharuddin, S. S. & Rashid, S. M. (2014). English language learning anxiety and orap performance among undergraduate ESL learners. *Journal of Language and Communication*, *1*(2), 137–154.

Borlongan, A. M. & Quinto, E. J. M. (2015). Some notes on the sociology of English in Timor-Leste. In *Program and Abstracts of the 36th National Conference of The Japanese Association for Asian Englishes* (pp. 7–12). Nagoya, Japan: The Japanese Association for Asian Englishes.

Boyatzis, R. E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*. Thousand Oaks, CA: Sage Publications.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101.

Brookhart, S. M., Walsh, J. M. & Zientarski, W. A. (2006). The Dynamics of Motivation and Effort for Classroom Assessments in Middle School Science and Social Studies. *Applied Measurement in Education*, *19*(2), 151–184.

Cheng, Y. (2002). Factors Associated with Foreign Language Writing Anxiety. *Foreign Language Annals*, *35*(6), 647–656.

Cheng, Y. (2004). A Measure of Second Language Writing Anxiety: Scale Development and Preliminary Validation. *Journal of Second Language Writing*, *13*(4), 313–335.

Cohen, D. & Crabtree, B. (2006). Confirming and disconfirming cases. Retrieved from http://www.qualres.org/HomeConf-3807.html

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand

Oaks, CA: SAGE Publications, Inc.

Dannels, D. P. (2003). Teaching and Learning Design Presentations in Engineering: Contradictions between Academic and Workplace Activity Systems. *Journal of Business and Technical Communication*, *17*(2), 139–169. https://doi.org/10.1177/1050651902250946

Dewaele, J.-M. & Al-Saraj, T. M. (2015). Foreign Language Classroom Anxiety of Arab learners of English: The effect of personality, linguistic and sociobiographical variables. *Studies in Second Language Learning and Teaching*, *5*(2), 205–288. https://doi.org/10.14746/ssllt.2015.5.2.2

Dewaele, J.-M. & Ip, T. S. (2013). The link between foreign language classroom anxiety, second language tolerance of ambiguity and self-rated English proficiency among Chinese learners. *Studies in Second Language Learning and Teaching*, *3*(1), 47–66.

Dewaele, J.-M. & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching*, *2*(2), 237–274. https://doi.org/10.14746/ssllt.2014.4.2.5

Gerencheal, B. (2016). Gender Differences in Foreign Language Anxiety at an Ethiopian University: Mizan-Tepi University Third Year English Major Students in Focus. *African Journal of Education and Practice*, *1*(1), 1–16.

Gkonou, C. (2011). Studies in Second Language Learning and Teaching Anxiety over EFL speaking and writing: A view from language classrooms Speaking and Writing Anxiety from a Classroom-oriented Perspective. *Studies in Second Language Learning and Teaching*, *1*(2), 267–281. Retrieved from http://www.ssllt.amu.edu.pl

Gomari, H. & Lucas, R. I. (2013). Foreign Language Learning Motivation and Anxiety among Iranian Students in the Philippines. *Philippine ESL Journal*, *10*, 148–178.

Gopang, I. B., Bughio, F. A. & Pathan, H. (2015). Investigating Foreign Language Learning Anxiety among Students Learning English in A Public Sector University , Pakistan. *The Malaysian Online Journal of Educational Science*, *3*(4), 27–37.

Heng, C. S., Abdullah, A. N. & Yusof, N. B. (2012). Investigating the construct of anxiety in relation to speaking skills among ESL tertiary learners. *3L: Language, Linguistics, Literature*, *18*(3), 155–161.

Horwitz, E. K. (2001). Language Anxiety and Achievement. *Annual Review of Applied Linguistics*, *21*, 112–126. https://doi.org/10.1017/S0267190501000071

Horwitz, E. K., Horwitz, M. B. & Cope, J. (1986). Foreign Language Classroom Anxiety. *The Modern Language Journal*, *70*(2), 125–132.

Johnson, B. (2001). Toward a New Classification of Nonexperimental Quantitative Research. *Educational Researcher*, *30*(2), 3–13.

Kassim, H. & Ali, F. (2010). English communicative events and skills needed at the workplace: Feedback from the industry. *English for Specific Purposes*, *29*, 168–182. https://doi.org/10.1016/j.esp.2009.10.002

Khunnawut, S. (2011). Engineering students' perception and relevant aspects on Foreign Language Anxiety. In *3rd International Congress on Engineering Education (ICEED)* (pp. 32–36).

Kurt, G. & Atay, D. (2007). The Effects of Peer Feedback on the Writing Anxiety of Prospective Turkish Teachers of EFL. *Journal of Theory and Practice in Education*, *3*(1), 12–23. Retrieved from http://eku.comu.edu.tr/index/3/1/gkurt_datay.pdf

Lattin, J. M., Carroll, J. D. & Green, P. E. (2003). *Analyzing Multivariate Data*. CA, USA: Thomson Learning.

Liu, H. (2012). Understanding EFL undergraduate anxiety in relation to motivation, autonomy, and language proficiency. *Electronic Journal of Foreign Language Teaching*, *9*(1), 123–139.

Liu, H. & Chen, C. (2015). A Comparative Study of Foreign Language Anxiety and Motivation of Academic- and Vocational-Track High School Students. *English Language Teaching*, *8*(3), 193–204. https://doi.org/10.5539/elt.v8n3p193

Liu, M. & Jackson, J. (2008). Anxiety of Chinese Exploration Learners â€™ Unwillingness to Communicate Foreign Language. *The Modern Language Journal*, *92*(1), 71–86. https://doi.org/10.1111/j.1540-4781.2008.00687.x

Macayan, J. V. & Quinto, E. J. M. (2015). Fortifying identities in the engineering classroom: The motivational role of possible selves. In *Proceedings from the International Conference on Engineering Teaching and Learning Innovation ICEE-PHIL2015* (pp. 68–76). Manila, PH: PATE.

Macayan, J. V., Quinto, E. J. M., Otsuka, J. C. & Cueto, A. B. S. (2018). Are Filipino students' L2 learning goals performance- or mastery-oriented? An explanatory sequential analysis. *GEMA Online Journal of English Language Studies*, *18*(1), 51–68.

Min, L. S. & Rahmat, N. (2014). English Language Writing Anxiety among Final Year Engineering Undergraduates in University Putra Malaysia. *Advances in Language and Literary Studies*, *5*(4), 102–106. https://doi.org/10.7575/aiac.alls.v.5n.4p.102

Morgado, F. F. R., Meireles, J. F. F., Neves, C. M., Amaral, A. C. S. & Ferreira, M. E. C. (2017). Scale development: Ten main limitations and recommendations to improve future research practices.

Psicologia: Reflexão E Crítica, *30*(3), 1–20. https://doi.org/10.1186/s41155-016-0057-1

New York University. (n.d.). Focused (Semi-structured) Interviews. Retrieved September 18, 2017, from https://itp.nyu.edu/classes/fungus/interview_technique/InterviewTechniques.pdf

Özturk, H. & Çecen, S. (2007). The Effects of Portfolio Keeping on Writing Anxiety of EFL Students. *Journal of Language and Linguistic Studies*, *3*(2), 218–236.

Quinto, E. J. M. (2015). Attitude and motivation towards a working language: Case of East Timorese students in the Philippines. *3L: Language, Linguistics, Literature*, *21*(1), 1–12. https://doi.org/10.17576/3L-2015-2101-01

Quinto, E. J. M. (2018). *Towards a possible selves-based model of language teacher identity among new teachers: An exploratory sequential analysis*. De La Salle University.

Quinto, E. J. M. & Castillo, J. C. D. (2016). Reconceptualizing the language motivation of Timorese ELLs in the Philippines. *GEMA Online Journal of Language Studies*, *16*(3), 71–82.

Radzuan, N. R. M. & Kaur, S. (2011). Technical Oral Presentations in English: Qualitative Analysis of Malaysian Engineering Undergraduates' Sources of Anxiety. *Procedia - Social and Behavioral Sciences*, *29*, 1436–1445. https://doi.org/10.1016/j.sbspro.2011.11.383

Raju, R. & Eng, T. K. (2012). Language anxiety among ESL college students in India. *The English Language Teacher*, *41*(2), 112–129.

Riemer, M. J. (2002). English and Communication Skills for the Global Engineer. *Global J. of Engng. Educ*, *6*(1), 91–100. Retrieved from http://www.wiete.com.au/journals/GJEE/Publish/vol6no1/Riemer.pdf

Salehi, M. & Marefat, F. (2014). The Effects of Foreign Language Anxiety and Test Anxiety on Foreign Language Test Performance. *Theory and Practice in Language Studies*, *4*(5), 931–940. https://doi.org/10.4304/tpls.4.5.931-940

Schmidt, C. (2004). The Analysis of Semi-structured Interviews. In U. Flick, E. von Kardorff, & I. Steinke (Eds.), *A Companion to Qualitative Research* (pp. 253–258). Thousand Oaks, CA: SAGE.

Shao, K., Yu, W. & Ji, Z. (2013). An exploration of Chinese EFL students' emotional intelligence and foreign language anxiety. *Modern Language Journal*, *97*(4), 917–929. https://doi.org/10.1111/j.1540-4781.2013.12042.x

Silva, T. (1993). Toward an Understanding of the Distinct Nature of L2 Writing: The ESL Research and Its Implications. *TESOL Quarterly*, *27*(4), 657–677.

Tsai, C.-C. & Chang, I.-C. (2013). The Study on Motivation and Anxiety of English Learning of Students at a Taiwan Technical University. *International Journal of English Language Teaching*, *1*(1), 24–41.

Tsui, A. B. M. (1996). Reticence and anxiety in second language learning. In K. M. Bailey & D. Nunan (Eds.), *Voices from the Language Classroom* (pp. 145–168). Cambridge: CUP.

Zhang, H. (2011). *A study on ESL writing anxiety among Chinese English majors: Causes, effects and coping strategies for ESL writing anxiety*. Kristianstad University.

Zhang, W. & Liu, M. (2013). Evaluating the impact of oral test anxiety and speaking strategy use on oral english performance. *Journal of Asia TEFL*, *10*(2), 115–148.