Exploring English-Speaking Anxiety, Vocabulary Size, and Their Relationship Among High- and Low-Performing Thai University Students

Pasara Namsaeng[1] & Wadinlada Thuratham[2]

[1] Department of Western Languages and Linguistics, Faculty of Humanities and Social Sciences, Mahasarakham University, Mahasarakham, Thailand

[2] Department of English for International Communication, Faculty of Humanities and Social Sciences, Rajamangala University of Technology Tawan-ok, Chonburi, Thailand

Correspondence: Wadinlada Thuratham, Department of English for International Communication, Faculty of Humanities and Social Sciences, Rajamangala University of Technology Tawan-ok, Chonburi, Thailand. E-mail: wadinlada_th@rmutto.ac.th

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Abstract

This study examines English speaking anxiety, vocabulary size, and the relationship between English language speaking anxiety and vocabulary size among Thai university students, specifically analyzing differences between high- and low-performance groups. A sample of 438 undergraduate students enrolled in a Communicative English course participated in the research, utilizing the Updated Vocabulary Level Test (UVLT) to measure vocabulary size and a speaking anxiety questionnaire to evaluate anxiety levels. The Rasch analysis shows that the speaking anxiety questionnaire indicates model fit, one-dimensionality with an eigenvalue of 1.85, local independence, and person reliability of 0.894 ($p < .001$), reflecting the good quality of the instrument. The findings show that both high- and low-performing students experience significant levels of speaking anxiety, with mean anxiety scores ranging from 73% to 75%. Interestingly, similar levels of English speaking anxiety are exhibited by two groups. It also shows that only the high-performance group is likely to mastery the first 1000 words level and progress to another level. A significant relationship was observed between vocabulary size and English speaking anxiety. Although vocabulary size has a minimally positive correlation with speaking anxiety, it suggests a complex interrelationship between vocabulary size and speaking proficiency, with trait worry leading to high cognitive load and difficulty maintaining performance. This study underscores the critical need for language educators to address both vocabulary enhancement and anxiety reduction strategies in their teaching practices. Future studies should explore specific interventions aimed at mitigating anxiety and enhancing vocabulary acquisition.

Keywords: high-performance students, low-performance students, Rasch analysis, speaking anxiety, vocabulary size

1. Introduction

1.1 English Langugae Speaking Anxiety and Vocabulary Knowledge

English Language Speaking Anxiety (ELSA) is a specific form of anxiety experienced by individuals when required to speak English, particularly in formal or evaluative contexts. This anxiety negatively impacts speaking performance, often leading to poorer outcomes. ELSA can manifest in two ways: as a trait (a general tendency to feel anxious) and as a state (anxiety experienced in specific situations). Key causes of ELSA include fear of negative evaluation by others, self-criticism, and pressure to perform well in language learning contexts (Gkonou, 2011; Woodrow, 2006). The classroom environment, including teaching methods, peer interactions, and classroom dynamics, also contributes to ELSA (Gkonou, 2011). Addressing ELSA requires understanding both individual and contextual factors, and fostering a supportive, less intimidating environment is crucial for mitigating its impact on learners' speaking performance.

Several factors influence ELSA, such as language proficiency, teacher support, motivation (intrinsic and extrinsic), peer dynamics, cultural background, and class size. Students with higher English proficiency are better able to engage in discussions and comprehend course material, boosting confidence and performance (Khamkhien, 2010; Souzandehfar & Ahmed Abdel-Al Ibrahim, 2023). In contrast, lower proficiency leads to more anxiety and reduced participation. Positive teacher-student relationships, characterized by encouragement and constructive feedback, help alleviate anxiety and create an inclusive classroom atmosphere (Dörnyei & Csizér, 1998; Roorda et al., 2011). Motivation, both intrinsic (personal interest) and extrinsic (grades or rewards), influences student participation (Dörnyei, 2014), while peer dynamics can either enhance or hinder involvement (Balboni et al., 2025; Dimova, 2020). Cultural factors also affect communication styles and comfort levels with authority (Liu & Jackson, 2008), and class size and instructional methods directly impact student involvement (Ali et al., 2024). Interactive teaching methods, such as group discussions, support deeper learning and increased participation (Awidi & Paynter, 2024; Kanchon et al., 2024).

There is a link between vocabulary size and speaking anxiety. Research shows that individuals with larger vocabularies perform better in spontaneous speaking tasks, producing more words and demonstrating greater fluency and confidence (Jongman et al., 2021). In second

language (L2) contexts, a larger vocabulary reduces the anxiety associated with speaking in a non-native language (Uchihara & Clenton, 2020). A strong vocabulary also facilitates better communication, while limited vocabulary exacerbates anxiety (Aguila & Harjanto, 2016; Sari, 2012). The self-perceived mastery of vocabulary can also reduce anxiety, as individuals feel more confident speaking when they believe they have a larger vocabulary (Daflizar, 2024). Anxiety impairs cognitive processing, particularly in L2 contexts, and a limited vocabulary makes it harder to process language efficiently (MacIntyre & Gardner, 1991). However, little research has been in investigating the vocabulary size and speaking anxiety in high- and low-performance students. Thus, addressing both vocabulary development and anxiety is essential for improving speaking skills.

To the best of the researchers' knowledge, little is known about vocabulary size and speaking anxiety in high- and low-performance students. Previously, Zhang (2013) studied foreign language listening anxiety (FLLA) in high- and low-proficient learners, not speaking skills (Zhang, 2013). Similarly, Jones and colleagues (2012) studied public speaking anxiety in low- and high-attentional control individuals, not in high- and low-performance students (Jones et al., 2012). The current study aims to fill this gap in the literature by not only exploring speaking anxiety and vocabulary size but also examining the relationship between English language speaking anxiety and vocabulary size among Thai university students. By categorizing participants based on their performance on the Updated Vocabulary Level Test (UVLT), this study provides a nuanced understanding of how speaking anxiety influences language learning outcomes, offering valuable insights for educators in addressing anxiety-related barriers to language acquisition. Through this investigation, it aims to contribute to the existing body of knowledge on language learning by exploring speaking anxiety, vocabulary size, and elucidating the connections between speaking anxiety, and vocabulary size, ultimately enhancing our understanding of the challenges faced by learners in mastering English as a second language.

1.2 English Language Speaking Anxiety

English Language Speaking Anxiety (ELSA) is a specific type of anxiety that individuals experience when required to speak English, particularly in formal or evaluative contexts. This form of anxiety significantly impacts oral performance, often leading to poorer speaking task outcomes due to its debilitating effects. Research suggests that ELSA can be a strong predictor of how well individuals perform in speaking tasks (Quinto & Macayan, 2019; Woodrow, 2006). The anxiety associated with ELSA can manifest in two ways: as a trait, which refers to a general predisposition to feel anxious, and as a state, which refers to anxiety experienced in particular situations, such as when speaking in front of others. Both forms of anxiety can have varying impacts on individuals, influenced by their personal characteristics and the contextual factors they face in different environments (Lamb, 1972). Several key sources of ELSA have been identified. These include fear of negative evaluation by peers and teachers, self-derogation (the tendency to self-critique or feel inadequate), and the pressure to perform well in language learning settings (Gkonou, 2011; Woodrow, 2006). Furthermore, the classroom environment itself is often a significant contributor to ELSA. Elements such as teaching methods, classroom dynamics, and peer interactions can all heighten anxiety levels, making it a complex issue for learners and educators alike (Gkonou, 2011). Ultimately, addressing ELSA requires a nuanced understanding of both individual and contextual factors that contribute to the anxiety, and efforts to create supportive, less intimidating environments can help mitigate its negative impact on language learners' speaking performance.

1.3 Factors Influencing English Language Speaking Anxiety

Language proficiency plays a critical role in students' English language speaking anxiety. Students with higher English proficiency are better able to comprehend course material and actively participate in discussions, boosting their confidence and academic performance (Souzandehfar & Ahmed Abdel-Al Ibrahim, 2023). In contrast, students with lower proficiency often struggle to express their ideas and understand the content, leading to reduced engagement (Khamkhien, 2010). Additionally, Foreign Language Anxiety (FLA) presents a significant barrier to participation. FLA, marked by nervousness when speaking or listening in a foreign language, can discourage students from participating in class, impeding both their learning and overall academic performance (Cheng et al., 1999; Chow et al., 2018). To overcome these challenges, teacher support is crucial. Positive teacher-student relationships, characterized by encouragement and constructive feedback, help reduce anxiety, increase confidence, and create a more inclusive classroom atmosphere that fosters greater participation (Dörnyei & Csizér, 1998; Roorda et al., 2011).

Motivation, both intrinsic and extrinsic, also plays a central role in student speaking engagement. Intrinsic motivation, fueled by personal interest and a desire for improvement, often leads to more active participation, while extrinsic motivation, such as grades or rewards, can also influence involvement (Dörnyei, 2014). A balanced approach to both types of motivation helps teachers design strategies that encourage deeper engagement (Aseery, 2024). Alongside motivation, peer dynamics are essential in fostering a collaborative learning environment. Positive peer interactions enhance student engagement, while negative dynamics like competitiveness or exclusion can discourage participation (Balboni et al., 2025; Dimova, 2020). Cultural background is another factor influencing participation, as students' communication styles and comfort levels with authority vary across cultures. A culturally responsive teaching approach is necessary to ensure that all students feel comfortable engaging in classroom activities (Liu & Jackson, 2008). Finally, class size and instructional methods directly impact student involvement. Smaller class sizes allow for more personalized attention and interaction, which enhances engagement, while larger classes require innovative teaching strategies to maintain participation (Ali et al., 2024). Interactive instructional methods, such as group discussions and problem-based learning, further support active learning and greater student involvement (Awidi & Paynter, 2024; Kanchon et al., 2024). Together, these factors create a dynamic and engaging classroom environment that fosters speaking engagement, deeper learning, and student success.

1.4 The Link Between Speaking Anxiety and Vocabulary Size

Individuals with a larger vocabulary tend to perform better in spontaneous speech tasks, producing more words and maintaining a higher speech-silence ratio, which suggests greater fluency and confidence in speaking (Jongman et al., 2021). Vocabulary mastery is positively correlated with speaking skills, indicating that a strong vocabulary enhances one's ability to communicate more effectively, especially in foreign language contexts (Sari, 2012). In second language (L2) settings, a larger vocabulary can facilitate better communication and potentially reduce the anxiety associated with speaking in a non-native language (Uchihara & Clenton, 2020). This connection between vocabulary size and fluency suggests that those with a broader vocabulary are better equipped to handle the demands of spontaneous communication, leading to lower anxiety levels and more confident speaking.

Conversely, anxiety has a negative impact on speaking competence, and a limited vocabulary can contribute significantly to heightened anxiety. In fact, research has shown that there is a significant correlation between vocabulary size, anxiety, and speaking performance, with individuals experiencing more anxiety when they perceive their vocabulary as inadequate (Aguila & Harjanto, 2016; Sari, 2012). A weak negative relationship exists between self-perceived vocabulary size and speaking anxiety, implying that individuals who believe they have a larger vocabulary may experience less anxiety when speaking (Daflizar, 2024). This suggests that a sense of vocabulary mastery not only improves speech production but also reduces the emotional barriers to speaking. Moreover, anxiety can impair cognitive processing during language tasks, particularly in L2 contexts, where limited vocabulary exacerbates this effect (MacIntyre & Gardner, 1991). Therefore, addressing both vocabulary development and anxiety is crucial for improving speaking skills, as reducing anxiety and increasing vocabulary mastery can create a positive feedback loop that enhances fluency and confidence in language use.

1.5 Measuring Vocabulary Size by Using the UVLT

The Updated Vocabulary Levels Test (UVLT) that Webb and colleagues (2017) was originally developed from Nation's Vocabulary Levels Test (VLT) (1983), Schmitt and colleagues' VLT (2001), and McLean and Kramer's NVLT (2015). The original Vocabulary Levels Test (VLT) (McLean & Kramer, 2015; Nation, 1983; Schmitt et al., 2001) was designed to measure vocabulary size by focusing on four word frequency levels (2000, 3000, 5000, 10000) and an academic vocabulary level. The VLT employs a matching format with 30 questions per level. The words are presented in 10 clusters of six words (three target words and three distractors), as seen in Figure 1 (Schmitt et al., 2001). However, the VLT has two limitations: first, the word frequency levels were derived from tests from the 1930s and 1940s, which are now considered outdated; second, it does not include the most common 1000 word families.

1	bull	_____	formal and serious manner
2	champion	_____	winner of a sporting event
3	dignity	_____	building where valuable objects are shown
4	hell		
5	museum		
6	solution		

Figure 1. Noun Cluster at the 3000 Level (Schmitt et al., 2001)

The UVLT employed a new form of matching format with 10 three-item clusters per level, measuring knowledge of an equal proportion of nouns, verbs, and adjectives across five word frequency levels (1000, 2000, 3000, 4000, 5000), excluding the Academic Word List (AWL). The most common 1000 word families were included due to their spoken coverage of 65-85% (Webb & Nation, 2017), according to the recent BNC/COCA corpus. Headwords in each list were presented to avoid bias in selecting items, and the distractors were from the same frequency level and part of speech. A final change was the presentation of the items through clusters in a grid format, rather than in the traditional matching format, to increase transparency. The Rasch reliability and separation estimates were reported to produce high reliability, at 0.96 and 4.72, respectively (Webb et al., 2017). The UVLT presents items listed in bold across the top and definitions listed vertically down the side, as shown in Figure 2. Test takers are required to check the corresponding box next to each definition.

	boy	**rent**	**report**	**size**	**station**	**thing**
how big or small something is						
place buses and trains go to						
young man						

Figure 2. Noun Cluster of the UVLT 1000 word level (Webb et al., 2017)

Previous studies have investigated the relationship between vocabulary size and speaking ability (Uchihara & Clenton, 2020). Uchihara and Clenton (2020) employed a Yes/No test (Meara & Miralpeix, 2016) alongside a speaking task (oral picture narration) and found that individuals with larger vocabularies produced more words and had a higher speech-to-silence ratio compared to those with smaller vocabularies, without delving deeply into the role of speaking anxiety. Another study by Daflizar (2024) explored out-of-class speaking anxiety, self-perceived speaking skills, vocabulary proficiency, and gender in 87 Indonesian university students. It found a moderate negative correlation between self-perceived speaking skills and anxiety, while a weak negative relationship was observed between self-perceived vocabulary size and anxiety (Daflizar, 2024). Lastly, a study by Aguila and Harjanto (2016) investigated foreign language anxiety and speaking competency with 23 Indonesian university students. The study found that the students exhibited slightly high levels of anxiety, and there was an inverse relationship between anxiety levels and speaking scores (Aguila & Harjanto, 2016).

However, the current study specifically focuses on English language speaking anxiety and vocabulary proficiency, particularly vocabulary size, with a larger sample of participants divided into two groups based on performance (high vs. low). The Updated Vocabulary Level Test, the most current vocabulary size test, was used to assess students' vocabulary size. The following two research questions are formulated.

1. To what extent the English language speaking anxiety and vocabulary size of Thai university students?
2. What is the relationship between the university students' English language speaking anxiety and vocabulary size in high- and low-performance groups?

2. Method

2.1 Participants and Setting

The participants in this study were 438 undergraduate students from a university in northeastern Thailand, all of whom were enrolled in the Communicative English course. They were divided into two groups based on their performance on the Updated Vocabulary Level Test (UVLT): a high-performance group (n = 245) and a low-performance group (n = 193). The participants came from a range of majors, with ages ranging from 18 to 24 years. There were 258 females, 172 males, and 8 others. The gender distribution was skewed towards females.

2.2 Research Instruments

2.2.1 Instrument 1: Speaking Anxiety (SA)

The Speaking Anxiety (SA) was adopted from Foreign Language Speaking Anxiety. Preliminarily, the 14-item Public Speaking Class Anxiety Scale (PSCAS) was created by Yaikhong and Usaha (2012), who then refined the 17-item PSCAS based on construct, internal, and content validity. The content validity was assessed by three experienced teachers, piloted with 38 undergraduate students, and revised based on the feedback. Internal validity was evaluated with a sample of 76 undergraduate students, and the resulting coefficient was deemed acceptable at .84. Construct validity was assessed using Principal Axis Factoring, which led to the extraction of the 17-item PSCAS (Yaikhong & Usaha, 2012).

After that, the 17-item SA was translated into Thai and piloted with 438 students. This study will use the Rasch Analysis framework from Wright and Stone (1999) to analyze the four core concepts (Wright & Stone, 1999). The jamovi program version 2.3.28 was used for Rasch Analysis. Infit and outfit statistics will evaluate model fit, with acceptable values ranging from 0.5 to 1.5. Unidimensionality will be verified with factor analysis, ensuring the test measures a single trait. Local independence will be checked using correlation matrices (e.g., Q3 coefficient), ensuring that item performance is independent. Reliability will be assessed by the person reliability (Linacre & Wright, 1993).

The pilot study showed that there are three items which were not fit, which are items 4, 8, 11, and 12; therefore, being eliminated from the SA making it 13-item SA. The 13 items were checked again, and the infit-outfit matrices were raging between 0.5-1.5 as shown in Figure 3.

Item statistics of the rating scale model

	Measure	S.E.Measure	Infit	Outfit
1	-2.79	0.0600	0.989	1.041
2	-3.25	0.0635	1.035	0.985
3	-2.75	0.0598	0.872	0.862
5	-2.51	0.0585	1.009	1.036
6	-2.44	0.0582	1.398	1.345
7	-2.32	0.0576	0.897	0.885
9	-3.04	0.0618	1.399	1.457
10	-3.21	0.0631	1.139	1.221
13	-2.18	0.0571	0.773	0.755
14	-2.50	0.0584	0.740	0.778
15	-2.15	0.0570	1.145	1.159
16	-2.05	0.0567	0.986	1.014
17	-2.44	0.0582	0.784	0.776

Note. Infit= Information-weighted mean square statistic; Outfit= Outlier-sensitive means square statistic.

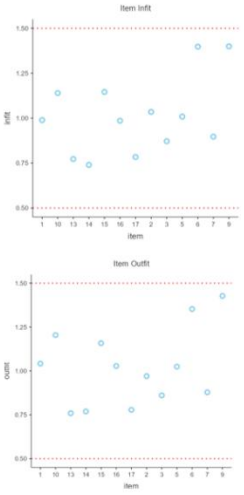

Figure 3. the infit-outfit matrices of 13-item Speaking Anxiety

Moreover, the eigne value was observed and found that this 13-item SA measuring the unidimentional construct (eigen value = 1.85), and the Q3 correlation matrix also know that each item is independent from each other without strong patterns of correlations.

	F1	F2	F3	F4	F5
Eigen value	1.85	1.42	1.21	1.15	1.12
Proportion Var	0.15	0.12	0.10	0.10	0.09
Proportion Explained	0.27	0.21	0.18	0.17	0.17

Q3 Correlation Matrix

	1	2	3	5	6	7	9	10	13	14	15	16	17
1	—												
2	0.305	—											
3	0.230	0.263	—										
5	0.101	-0.037	-0.009	—									
6	-0.119	-0.082	0.012	-0.018	—								
7	-0.158	-0.112	0.010	-0.029	0.110	—							
9	-0.201	-0.093	-0.105	-0.111	-0.054	-0.009	—						
10	-0.050	-0.048	-0.116	-0.009	-0.194	-0.161	-0.149	—					
13	-0.185	-0.224	-0.211	-0.107	-0.127	-0.084	-0.007	-0.069	—				
14	-0.152	-0.136	-0.148	-0.280	-0.136	-0.091	0.013	-0.131	0.163	—			
15	-0.279	-0.236	-0.294	-0.247	-0.149	-0.077	-0.118	-0.105	0.046	0.065	—		
16	-0.193	-0.231	-0.222	-0.122	-0.151	-0.239	-0.149	-0.137	0.066	-0.021	0.304	—	
17	-0.149	-0.145	-0.171	-0.203	-0.126	0.048	-0.062	-0.081	-0.041	0.172	0.013	0.049	—

Figure 4. Unidimentionality and local independence

Finally, the person reliability at 0.894 ($p < .001$) as shown in Figure 5. Thus, the 13-item SA was used to assess the students' speaking anxiety.

Model Fit

	Person Reliability	MADaQ3	p
Scale	0.894	0.0991	< .001

Note. MADaQ3= Mean of absolute values of centered Q_3 statistic with p value obtained by Holm adjustment; Ho= the data fit the Rasch model.

Figure 5. Person Reliability

2.2.2 Instrument 2: the Speaking Anxiety Questionnaire and the Updated Vocabulary Levels Test (UVLT) Were Distributed to the Students to Enroll in

The UVLT consists of 10 clusters of three items per level, assessing knowledge of nouns, verbs, and adjectives in equal proportions across five word frequency levels (1000, 2000, 3000, 4000, 5000). To minimize item selection bias, headwords were presented in each list, with distractors drawn from the same frequency level and part of speech. The Rasch reliability and separation indices were found to be high, with values of 0.96 and 4.72, respectively (Webb et al., 2017). Therefore, the UVLT was adopted for measuring the vocabulary size.

2.3 Data Collection and Data Analysis

Due to the cross-sectional research design, the research instruments, specifically the Speaking Anxiety Questionnaire and the Updated Vocabulary Levels Test (UVLT), were administered to 599 undergraduate students enrolled in a Communicative English course. However, only 438 students completed both the survey and the tests. The students were allotted 20 minutes for the questionnaire and 30 minutes for the test. To promote environmental sustainability, the Google Form was used for data collection and was monitored by the researcher to prevent students from transferring answers or using a dictionary.

For the 13-item Speaking Anxiety measure, descriptive statistics such as the mean, standard deviation, and others were used. Specifically, the UVLT (Webb et al., 2017) proposed that the mastery cutoff point for each level should vary depending on the level. At the 1000, 2000, and 3000 word frequency levels, the cutoff point is set at 29/30, while at the 4000 and 5000 levels, it is 24/30, reflecting an 80% mastery level, as suggested by Schmitt (Xing & Fulcher, 2007). The higher cutoff for the first three levels is due to these words accounting for a large percentage of English vocabulary (Webb et al., 2017). For inferential statistics, correlation analysis will be conducted following Cohen's (1988) guidelines to examine the relationships between test performances, with correlations categorized as small (r = 0.10 to 0.29), medium (r = 0.30 to 0.49), or large (r = 0.50 to 1.0).

3. Results

In order to answer the research question 1. To what extent the English language speaking anxiety and vocabulary size of Thai university students? Figure 6 provides the obtained data.

3.1 English Speaking Anxiety Levels across High- and Low-Performance Groups

Descriptives

	N	Mean	Median	SD	SE
H-SA	193	3.75	3.85	0.752	0.0541
L-SA	245	3.65	3.62	0.615	0.0393

Figure 6. Speaking Anxiety by high- and low-performance groups

The results from Figure 6 compare speaking anxiety among 438 Thai university students, divided into Speaking Anxiety of Low-performance (L-SA, n = 245) and Speaking Anxiety of How-performance (H-SA, n = 193) groups. It presents the mean scores and standard deviations for both measures. The results show similar speaking anxiety levels across groups, with the H-SA group experiencing slightly higher anxiety, suggesting higher-performing students may feel marginally more anxious. Overall, the speaking anxiety of students are around 73% to 75% in high- and low-performance groups, respectively.

3.2 Vocabulary Size across High- and Low-Performance Groups

Webb et al. (2017) argued that when evaluating vocabulary size, performance on individual test levels is more significant than the overall score, as some words are more essential than others. The scores on each of the five levels of the university participants were.

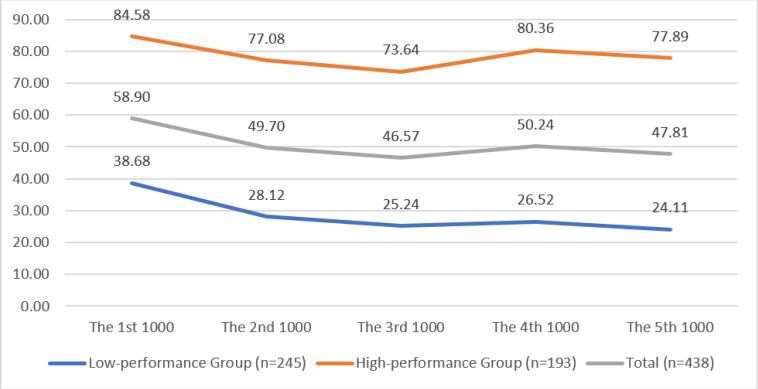

Figure 7. Vocabulary Size between High- and Low-Performance Groups

The results showed that the first 1,000-word level was only achieved by the high-performance group, while the second and third levels were not reached, even by the high-performance group. Figure 7 also highlights a significant gap in performance between the high-performance group (84.58%) and the low-performance group (38.68%) in the first 1000 words. The overall group average (n=438) reveals moderate vocabulary proficiency, with the highest score in the first 1000 words (58.90) and the lowest in the 5th 1000 (47.81), suggesting that while many learners are proficient in basic vocabulary, there is room for improvement, especially with less common words. Both groups show a consistent decline in scores as vocabulary frequency decreases, further emphasizing the importance of frequent words in language acquisition.

3.3 The Relationship between English Language Speaking Anxiety and Vocabulary Size in High- and Low-Performance Groups

In order to answer the research question 2. What is the relationship between the university students' English language speaking anxiety and vocabulary size in high- and low-performance groups? Figure 8 provides details of the data obtained.

Correlation Matrix

		UVLT	L-UVLT	H-UVLT	13-SA	L-SA	H-SA
UVLT	Pearson's r	—					
	df	—					
	p-value	—					
L-UVLT	Pearson's r	0.907 ***	—				
	df	243	—				
	p-value	< .001	—				
H-UVLT	Pearson's r	0.725 ***	0.945 ***	—			
	df	191	191	—			
	p-value	< .001	< .001	—			
13-SA	Pearson's r	-0.016	-0.058	-0.059	—		
	df	436	243	191	—		
	p-value	0.739	0.368	0.419	—		
L-SA	Pearson's r	-0.049	-0.046	-0.050	-0.039	—	
	df	243	243	191	243	—	
	p-value	0.446	0.470	0.490	0.547	—	
H-SA	Pearson's r	0.154 *	0.128	0.113	0.105	-0.050	—
	df	191	191	191	191	191	—
	p-value	0.032	0.076	0.117	0.146	0.489	—

Note. * p < .05, ** p < .01, *** p < .001

Figure 8. Correlation Matrix of Vocabulary Size and Speaking Anxiety for High- and Low-Performance Groups

The correlation matrix reveals strong positive correlations between the vocabulary size measures. L-UVLT (Vocabulary Size in the low-performance group) shows a very strong positive correlation with UVLT (Vocabulary Size overall) ($r = 0.907$, $p < .001$) and a strong positive correlation with H-UVLT (Vocabulary Size in the high-performance Group) ($r = 0.945$, $p < .001$). This suggests that as vocabulary size increases in the low performance group, both overall vocabulary size and vocabulary size in the high-performance group also increase significantly. Additionally, H-UVLT demonstrates a strong positive correlation with UVLT ($r = 0.725$, $p < .001$), indicating that a larger vocabulary size in the high-performance group is associated with a better overall vocabulary size.

On the other hand, the correlation between the speaking anxiety (SA) measures and the vocabulary size measures were weak. Specifically, the correlation between 13-SA (Speaking Anxiety for all participants) and UVLT was $r = -0.016$ ($p = 0.739$), showing no meaningful relationship. Similarly, L-SA (Speaking Anxiety in the low-performance group) exhibited weak correlations with all UVLT measures ($p > 0.4$). The H-SA (Speaking Anxiety in the high-performance group) showed a significant positive correlation with UVLT ($r = 0.154$, $p = 0.032$), though the relationship remains weak. The key takeaway is that speaking anxiety appears to be likely impact on vocabulary size across both performance groups.

4. Discussion

4.1 Understanding Speaking Anxiety Across Performance Levels

The results indicated that English speaking anxiety in high- and low-performance groups is likely similar, though with different underlying causes. This aligns with previous studies suggesting that both high- and low-proficiency students experience similar speaking anxiety. However, a notable difference emerged in their attitudes: low-ability students felt powerless over the impact of anxiety on their performance, while high-ability students were more optimistic, believing the experience could help them improve (Hewitt & Stephenson, 2012). One possible explanation why high-performance student express high anxiety is maybe due to its impact on attention and coordination, often leading to "choking under pressure." However, anxious individuals may allocate extra mental resources, which can sometimes help maintain performance despite inefficiencies (Nieuwenhuys & Oudejans, 2017). Another explanation for low-performance students experiencing high anxiety is the Reduced Human Performance Model (RHPM), which views human performance as a complex adaptive system. According to this model, cognitive resources are limited, leading to imperfect perception and cognition, especially in tasks that require sustained attention, such as vigilance tasks (Wellbrink, 2003). In conclusion, understanding the differing impacts of

speaking anxiety on high- and low-performance students can help tailor more effective strategies to manage anxiety and improve performance across proficiency levels.

4.2 Vocabulary Size Deficiency in Thai University Students

The results revealed that only the high-performance group reached the first 1,000-word level, while neither the second nor third levels were achieved, even by the high-performance group. Webb et al. (2017) argued that the top 1000 words represent 75-85% of English usage, while words ranked 1001-2000 account for 5%, and those ranked 2001-3000 cover 2%. Words in the 4001-5000 range make up less than 1%. Therefore, knowing the most frequent 1000 words is more valuable than knowing the next 1000, and so on. Scoring 86% or higher on a level indicates readiness for the next level, while lower scores suggest more study is needed. Mastery of the top 3000 words typically leads to 95% comprehension in conversations, TV, and movies. These findings align with Webb et al. (2017), who argue that mastering the most common words is more beneficial than knowing a larger number of less frequent words. Additionally, learners scoring 86% or higher on the first 1000 words are likely ready to progress to the next level, offering a useful metric for educators to assess readiness for further learning.

Therefore, only the high-performance students are ready to progress to the second 1,000-word level. The possible reason for vocabulary size deficiencies in Thai university students may be that Thai EFL students often rely on memory, selective attention, and dictionary use for vocabulary acquisition. However, these strategies are not always effective for retaining vocabulary long-term (Panmei, 2023). This is because Thai EFL students face hierarchical difficulties in acquiring different aspects of word knowledge, particularly in receptive word skills (Nontasee & Sukying, 2023).

4.3 The Relationship between English Speaking Anxiety and Vocabulary Size

The current study was designed to investigate the relationship between receptive vocabulary size and L2 speaking anxiety with 438 university students (high-performance = 193, low-performance = 245) who enrolled in a Communicative English course. The findings revealed that in the high-performance students, speaking anxiety shows a significant positive correlation with vocabulary size ($r = 0.154$, $p = 0.032$). While the low-performance group shows otherwise, the self-perceived speaking anxiety negatively corelates with the receptive vocabulary size ($r = -0.049$, $p = 0.446$) with no statistical differences.

Mora et al. (2024) found that higher self-perceived anxiety was associated with lower breakdown fluency and reduced lexico-grammatical accuracy. In contrast, the present study reveals a significant positive correlation between self-perceived speaking anxiety and vocabulary size in the high-performance group ($r = 0.154$, $p = 0.032$). This finding contradicts the previous study, which reported that higher anxiety negatively correlates with lexical knowledge (Mora et al., 2024). In this case, however, higher anxiety is positively correlated with vocabulary knowledge. This discrepancy may be attributed to the complex interrelationships between vocabulary size and speaking proficiency (Mairano & Santiago, 2020). The findings are consistent with Mairano and Santiago (2020), who suggested that speaking anxiety may moderate the positive effects of a large vocabulary on speaking performance.

Another possible explanation is due to the trait worry. It is a type of anxiety, uses more cognitive resources to block distractions under high cognitive load, supporting predictions about anxiety's effect on goal-directed behavior (Owens et al., 2015). Indeed, high working memory load exacerbates cognitive control deficits in individuals with high trait anxiety, leading to greater difficulty in managing distractors and increased response conflict (Qi et al., 2014). Thus, in the high-performance group, the higher the speaking anxiety the greater vocabulary size was observed. Indeed, speaking anxiety significantly not only affects not only the vocabulary size, but also the L2 speech production, impacting fluency, pronunciation accuracy, and overall speaking performance (Mora et al., 2024).

5. Limitations and Suggestions

In this study, vocabulary size was assessed using the Updated Vocabulary Levels Test (UVLT), focusing on a 'receptive' vocabulary task, specifically a recognition task, rather than a 'productive' vocabulary task. Thus, a productive vocabulary test may be necessary for a more comprehensive assessment. To analyze the data, Rasch analysis was employed, following Wright and Stone's (1999) framework, which emphasizes four core concepts: fit, unidimensionality, local independence, and reliability. An alternative approach, such as Messick's (1989) framework for construct validity, could have been used, which includes five aspects: content, substantive, structural, generalizability, and external validity (Messick, 1989). Additionally, the study's statistical results may be influenced by the unequal sample sizes between the high-performance group (n=193) and the low-performance group (n=245), with the latter being significantly larger. Ensuring equal sample sizes between the two groups could provide more reliable results. The study, conducted in a Thai EFL university context with 438 participants, reflects only this setting, limiting the generalizability of the findings to other contexts. Given the cross-sectional design, further longitudinal research with interventions aimed at reducing speaking anxiety would be valuable. Lastly, high-performance students may be key to a deeper exploration of the underlying causes of speaking anxiety.

6. Conclusion and Implementation

This study explored the complex relationship between English speaking anxiety and vocabulary size among Thai university students, highlighting how these factors interact within high- and low-performance groups. The findings indicate that speaking anxiety is prevalent among students, regardless of their vocabulary proficiency, with both high- and low-performing groups experiencing significant anxiety. Interestingly, the results suggest that higher-performing students may experience slightly greater anxiety, challenging the common assumption that proficiency correlates with reduced anxiety levels. This phenomenon may be explained by trait worry in

high-performance students, where larger vocabulary sizes are associated with greater speaking anxiety.

The implications of these findings are significant for language educators and curriculum developers. Understanding that speaking anxiety affects students across different performance levels highlights the need for targeted interventions that address both anxiety management and vocabulary development. By fostering a supportive learning environment and implementing strategies to reduce anxiety, educators can enhance students' confidence and willingness to engage in speaking activities, ultimately improving their language proficiency. Furthermore, the study emphasizes the importance of vocabulary size as a critical component of language learning. Mastery of a strong vocabulary not only facilitates better communication but also acts as a buffer against anxiety, enabling learners to express themselves more freely and effectively. Therefore, integrating vocabulary enhancement techniques into language instruction is essential for promoting both linguistic competence and emotional resilience. Addressing the dual challenges of speaking anxiety and vocabulary size is crucial for fostering effective language learning. By recognizing the interconnectedness of these factors, educators can better support students in overcoming barriers to language acquisition, ultimately leading to more successful and confident communicators in English.

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Authors' contributions

Pasara Namsaeng was responsible for study design, data collection, and manuscript drafting and revision. Assistant Professor Wadinlada Thuratham contributed to manuscript drafting and citation checking. All authors read and approved of the final manuscript.

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