

THE USE OF DIAPHRAGMATIC BREATHING IN ALLEVIATING THAI STUDENTS'
PUBLIC SPEAKING ANXIETY

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ชื่อเรื่อง การใช้เทคนิคการหายใจด้วยกระบ้งลมเพื่อบรรเทาความวิตกกังวลในการพูดในที่
สาธารณะของนักศึกษาไทย

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คำสำคัญ การหายใจโดยใช้กระบ้งลม, การฝึกหายใจลึกๆ, ความวิตกกังวลในการพูดที่
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บทคัดย่อ

เพื่อบรรเทาผลกระทบด้านลบของการพูดในที่สาธารณะ เช่น การลดความวิตกกังวลอย่างเป็นระบบ การปรับพฤติกรรมและความคิด การแสดงด้วยภาพ แต่อย่างไรก็ตามเทคนิคและวิธีการเหล่านี้อาจใช้เวลาหากต้องการสอนโดยครอบคลุมในชั้นเรียน ดังนั้นการวิจัยครั้งนี้ จึงมีวัตถุประสงค์เพื่อศึกษาประสิทธิภาพโดยรวมของการใช้เทคนิคการหายใจด้วยกระบ้งลมในการลดความวิตกกังวลด้วยตนเอง ในการพูดในที่สาธารณะของนักเรียนไทย

การวิจัยครั้งนี้ได้นำรูปแบบการวิจัยเชิงทดลองมาใช้ กลุ่มประชากรตัวอย่างเป็นนักศึกษา
ระดับปริญญาตรีจำนวน 38 คน และได้ถูกนำมาแบ่งออกเป็นสองกลุ่มโดยมีนัยสำคัญ ซึ่งทางผู้วิจัยจัด
ให้นักศึกษาระดับปริญญาตรี 19 คน อยู่ในกลุ่มทดลอง (การหายใจโดยใช้กระบ้งลม) และ จัดให้
นักศึกษาระดับปริญญาตรี 19 คน อยู่ในกลุ่มควบคุม (การหายใจโดยไม่ใช้กระบ้งลม)

ผลวิจัยพบว่า (1) ผู้เข้าร่วมการทดลองส่วนใหญ่มีความวิตกกังวลในการพูดในที่สาธารณะ
ระดับสูง (2) มีการแสดงให้เห็นถึงความสัมพันธ์เชิงลบระหว่างความวิตกกังวลในการพูดในที่สาธารณะ
และ ผลทดสอบปากเปล่าของนักศึกษา (3) ประชากรนักศึกษาในกลุ่มทดลองมีความวิตกกังวลลดลง
อย่างมีนัยสำคัญกว่านักศึกษาในกลุ่มควบคุม ซึ่งสามารถกล่าวโดยนัยได้ว่าการพูดโดยใช้กระบ้งลมใน
การหายใจเป็นเทคนิคการแทรกแซงเทคนิคหนึ่งที่สามารถประยุกต์รวมเข้ากับหลักสูตรการพูดได้
เทคนิคนี้ไม่เพียงมีประสิทธิภาพในการบรรเทาความวิตกกังวลในการพูดในที่สาธารณะ แต่ยังใช้เวลา
น้อย ทำได้ง่ายภายใน 5 นาที และเป็นเทคนิคการสอนต้นทุนต่ำที่สามารถเพิ่มประสิทธิภาพการพูด

โดยรวมอีกด้วย โดยสรุปแล้วการผสมผสานเทคนิคการหายใจด้วยกระบ้งลม เป็นเทคนิคที่ช่วยเพิ่ม
ศักยภาพการสื่อสารโดยรวมของนักศึกษา



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ABSTRACT

Due to the shift from traditional methods (e.g., grammar translation & teacher-centered methods) to a communicative approach in English language teaching together with the effect of globalization, speaking skill has been given more emphasis compared to other macro skills (i.e., reading, writing, listening). However, language classes that require oral communication have been found to be more anxiety-inducing which debilitates learners' oral engagement and outcome. In fact, the majority of Thai students suffer moderate to high public speaking anxiety. Psychologists and researchers have explored multiple interventions to alleviate the negative effects of public speaking (e.g., systematic desensitization, cognitive restructuring, visualization). However, these techniques can be time-consuming to be taught extensively in language classrooms. Thus, this study examined the effectiveness of diaphragmatic breathing in reducing overall self-perceived public speaking anxiety among Thai students. An experimental research design was used. The population of 38 undergraduate students was purposively put into two groups: the experimental (diaphragmatic breathing) with 19 students and the control group (non-diaphragmatic breathing) also with 19 students. Among the results, 1) the majority of the participants exhibited a high level of public speaking anxiety, 2) demonstrated a negative correlation between public speaking anxiety and students' oral test performance, 3) the experimental group exhibited a significant reduction of public speaking anxiety than those from the control group. It can be implied that diaphragmatic breathing is a

plausible intervention technique that can be integrated into speaking courses; it is not only effective at alleviating public speaking anxiety but also a less time-consuming (easy-to-do five minutes) and low-cost intervention that can enhance overall speaking performance. Incorporating diaphragmatic breathing is promising as it improves the overall communicative competence of the students.



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Chiara Ayn Joven Lamarca, Ed.D

CONTENTS

	Page
ABSTRACT	i
ACKNOWLEDGEMENTS	v
CONTENTS	vi
- LIST OF TABLES	
- LIST OF FIGURES	
CHAPTER 1 INTRODUCTION	1
1.1 Background and Significance of the Research Problem	1
1.2 Research Objectives	4
1.3 Research Questions	4
1.4 Conceptual Framework	4
1.5 Hypotheses	5
1.6 Scope of Research	6
1.7 Expected Benefits/Contribution	7
1.8 Definition of Terms	7
CHAPTER 2 LITERATURE REVIEW	9
2.1 Theoretical Background of Public Speaking Anxiety	9
2.1.1 Definition of Public Speaking Anxiety	9
2.1.2 State vs. Trait Public Speaking Anxiety	9
2.1.3 Three Components of Public Speaking Anxiety	9
2.1.4 Effects of Public Speaking Anxiety	12
2.1.5 Factors of Public Speaking Anxiety	13
2.1.6 Relationship Between Public Speaking Anxiety and Oral Performance	14
2.2 Public Speaking Anxiety Among Thai Students	14
2.3 Public Speaking Anxiety Interventions	15
2.3.1 Systematic Desensitization	15
2.3.2 Cognitive Restructuring	16
2.3.3 Visualization	16
2.4 Diaphragmatic Breathing	17

CONTENTS (Continued)

2.5 Effect of Diaphragmatic Breathing or Reducing Public Speaking Anxiety	18
CHAPTER 3 RESEARCH METHODOLOGY	20
3.1 Research Design	20
3.1.1 Participants	20
3.1.2 Research Instruments	22
3.1.2.1 Public Speaking Anxiety Scale (PSAS)	22
3.1.2.2 Oral Tests	23
3.1.2.3 Diaphragmatic Breathing Video	24
3.2 Data Collection and Analysis	24
3.3 Procedure	25
CHAPTER 4 RESULTS	
4.1 Results of Thai undergraduate students' level of public speaking class anxiety	31
4.2 Results of the relationship between Thai students' public speaking anxiety level and their oral test performance	39
4.3 Results of whether 'diaphragmatic breathing' effectively reduces overall self-perceived public speaking anxiety	41
CHAPTER 5 DISCUSSION, CONCLUSION, AND RECOMMENDATIONS	
5.1 Discussion and Conclusion	48
5.2 Recommendation	50
REFERENCES	53
APPENDICES	60
APPENDIX A Public Speaking Anxiety Scale (PSAS)	60
APPENDIX B Speaking Rubric	62
APPENDIX C Background and Instructions for Diaphragmatic Breathing	66
APPENDIX D Sample Video Demonstration of Diaphragmatic Breathing Demonstrated by a Licensed Physician	69
APPENDIX E Ethics Form	72

CONTENTS (Continued)

APPENDIX F Researcher Profile	74
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LIST OF TABLES

TABLE		Page
1	Details of the Participants'	20
2	Mann-Whitney U-test Comparing the Public Speaking Anxiety Scores of Both Groups During the First Oral Presentation (Ranks)	29
3	Mann-Whitney U-test Comparing the Public Speaking Anxiety Scores of Both Groups During the First Oral Presentation (Test Statistics)	30
4	Summary of the Statistical Results of Both Groups (First Presentation)	30
5	Frequencies and Percentages of Participants' Responses to PSAS	31
6	Descriptive Statistics of PSAS	38
7	Participants' Level of Speaking Anxiety	39
8	Pearson Correlation Result of Public Speaking Anxiety and Speaking Performance	39
9	Guidelines for Interpreting Pearson Correlation Coefficient (r)	40
10	Public Speaking Anxiety Scores During Midterm and Final Oral Presentations of the Control Group	42
11	Wilcoxon Signed-Rank Test Comparing Public Speaking Anxiety Scores of the Control Group During Midterm and Final Speaking Test	43
12	Public Speaking Anxiety Scores During Midterm and Final Oral Presentations of the Experimental Group	44
13	Wilcoxon Signed-Rank Test Comparing Public Speaking Anxiety Scores of the Experimental Group During Midterm and Final Speaking Test	45

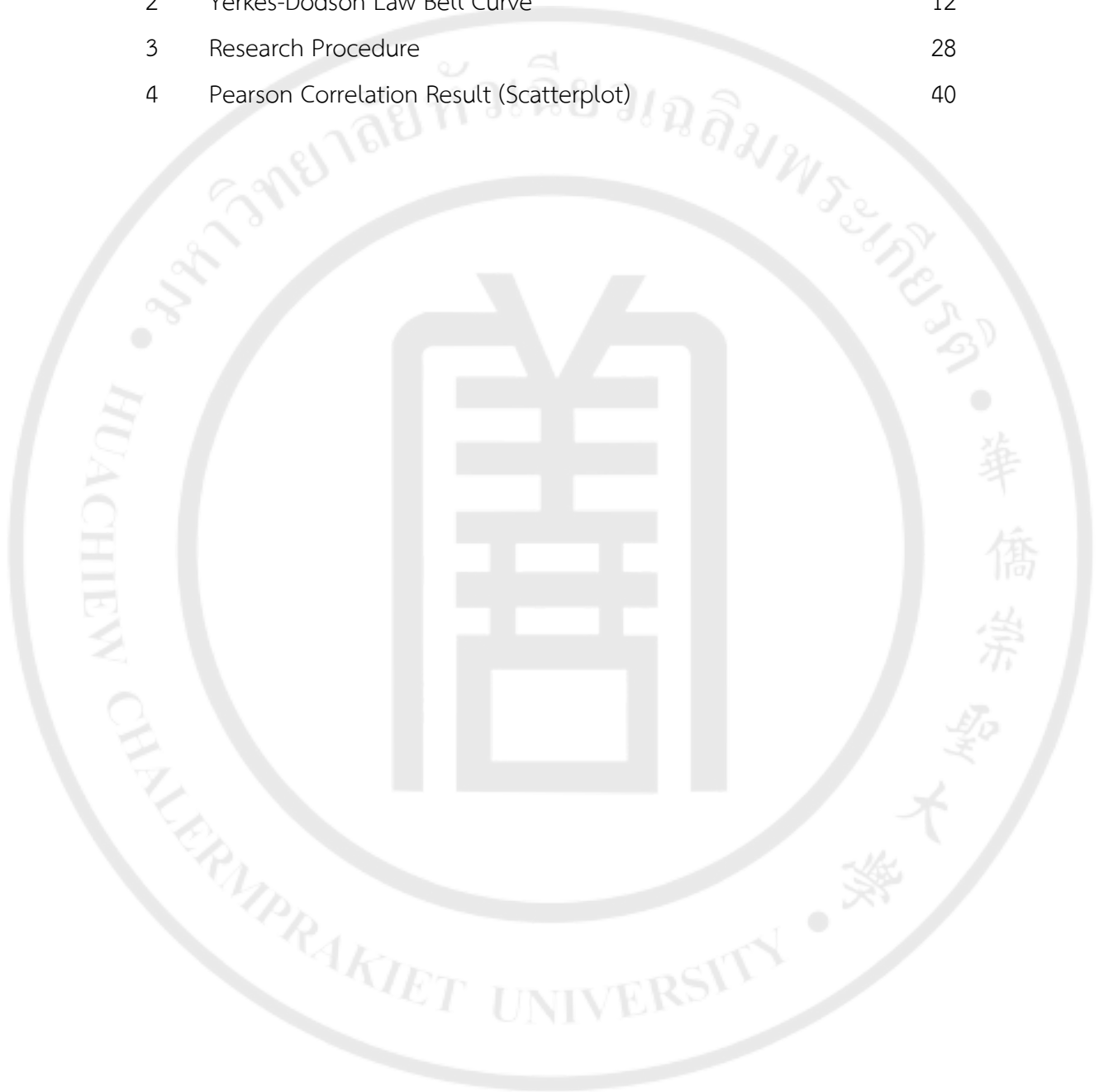
CONTENTS (Continued)

14	Summary of Wilcoxon Signed-Rank Test Comparing the Public Speaking Anxiety During Midterm and Final Oral Presentations of Both Groups	46
15	Mann-Whitney U-test Comparing the Public Speaking Anxiety Scores of Both Groups During Final Oral Presentation (Ranks)	46
16	Mann-Whitney U-test Comparing the Public Speaking Anxiety Scores of Both Groups During Final Oral Presentation (Test Statistics)	47
17	Summary of the Statistical Results of Both Groups (Final Presentation)	47



LIST OF FIGURES

FIGURE		Page
1	Conceptual Framework	5
2	Yerkes-Dodson Law Bell Curve	12
3	Research Procedure	28
4	Pearson Correlation Result (Scatterplot)	40



CHAPTER 1

INTRODUCTION

1.1 Background and Significance of the Study

Speaking skill is supposedly considered the most significant among other macro skills (i.e., reading, writing, listening) as it is necessary for effective communication (Zaremba, 2006). Due to the shift from traditional teaching methods (e.g. grammar-translation and teacher-centered methods) to a communicative approach in English language teaching together with the effect of globalization, speaking skill has been given more emphasis compared to other language learning skills. However, among other language skills, speaking is also the most challenging. As Kim (1998) postulates, language classrooms that require oral communication have been found to be more anxiety-inducing than those that require less speaking. It is one of the affective factors that have the greatest detrimental impact (Marzec-Stawiarska, 2015) which contributes to reducing students' oral participation and outcome (Byrne, Flood & Shanahan, 2012).

Despite the importance of speaking skills, it is alarming that many people are terrified of public speaking (Baccarani & Bonfanti, 2015). Public speaking anxiety refers to the anxiety that a person experiences when giving a speech or preparing to speak in front of others (Gallego, McHugh, Penttonen, & Lappalainen 2020). It is quite common among both students and the general public. In fact, according to some experts, 77% of the United States population experiences some level of anxiety when it comes to public speaking (Fritscher, 2021).

As originally proposed by Lang (1968, 2004), public speaking is felt in three different systems: cognitive, physiological, and behavioral. Anxious speakers frequently exhibit more pessimistic, inward-looking thoughts such as, "I'm going to forget what to say". Simultaneously, they experience physiological responses, for example, sweaty palms, and elevated heart rate, and may engage in avoidance behaviors such as avoiding direct eye contact with their audience (Bodie, 2010). Some argue that anxiety is beneficial to a certain degree (Sousa, 2016; Wolfe, 2001; Yerkes-Dodson, 1908). With a moderate amount of nervousness in public speeches, speakers tend to be more

concentrated on their speeches hence errors are reduced. Drawing primarily from anecdotal classroom experiences, however, for others, anxiety becomes so intense that it severely impairs one's ability to perform which can affect language performance and even impede language proficiency development. Many people avoid giving presentations entirely due to this fear and the accompanying anxieties. (Bodie, 2010). In the case of students, they may even decide against certain courses or careers that require occasional speaking and may sporadically avoid social events.

In English as a Foreign Language or English as a Second Language (ESL/EFL) context, learners may be proficient in reading, writing, and listening but appear to be inferior in speaking abilities. (Hmaid, 2014). This is true in the Thai EFL context wherein, Thai learners struggle in speaking English, are unable to communicate their ideas verbally, and seem to have low proficiency in speaking tasks. Thai learners lack the proficiency necessary to perform well when speaking English (Sethi, 2006) and it is extremely hard for them to master fluent speaking (Khamkhien, 2010). In a study that was conducted by Khaosim (2004) in the Northeast region of Thailand, 32.4% of Thai students majoring in English demonstrated a low level in using English for communication and 41.2% were at a very low level.

One of the factors that hinder or affect Thai learners speaking skills is anxiety. Their anxiety could be caused by a variety of factors, including insecurity, insufficient practice, lack of proficiency in the target language, or any pre-programmed thought pattern. Tongpoon-Deesri & Patanasorn (2002) reveal that Thai students refuse to speak in English because of their fear of making mistakes. Similarly, Boonkit (2010) asserts that Thai undergraduate students are unable to speak English confidently because they are anxious about making errors. In addition, a lack of confidence to perform in the medium of the target language is another reason that they are unwilling to communicate (Forman, 2005). When students are assigned an oral task, their anxiety level rises. (Zheng, 2008). Conversely, one of the most anxiety-provoking situations reported by students is when they give oral presentations and perform in front of other students (Ohata, 2005; Woodrow, 2006), the reason is that speaking activities expose students' weaknesses in front of others. Anxious students tend to speak rarely and withdraw themselves from a variety of oral activities in class. (Xianping, 2003).

Psychologists and researchers have explored multiple interventions to alleviate the negative effects of public speaking anxiety. Numerous researched techniques can be adapted and used to assist students in reducing public speaking anxiety. For instance, systemic desensitization – exposure to anxiety-inducing scenarios (McCroskey, 1972), cognitive restructuring – changing perspective on something (Meichenbaum, 1977), or visualization (Ayres & Hopf, 1985), however, this is not usually a simple procedure (Ayres & Hopf, 1992). Some methods can even be time-consuming to teach thoroughly in a standard communication class (Robinson, 1997). The unavailability of investigations or literature on effective interventions to reduce public speaking anxiety specifically for Thai EFL students as the focal point makes it more difficult. Plangkham & Porkaew (2012) noted that despite the fact that a lot of research has been done on English public speaking for EFL students, research on public speaking with Thai EFL students has not been studied extensively.

One technique that can easily be taught to manage the physiological responses of anxiety in EFL classes is diaphragmatic breathing or deep breathing. It is an intervention characterized by the abdomen expanding and contracting with each inhalation and exhalation (Greenberg, 2003). That simply means breathing with the help of the diaphragm rather than with just the upper part of the lungs. Engaging in deep breathing exercises can combat the common physical signs of anxiety, which include sweaty palms, rapid heart rate, muscle tension, etc. Deep breathing releases endorphins, the body's natural antidote to stress hormones, and has proven effective to manage speaking anxiety (Howe & Dwyer, 2007). It has also been demonstrated to have a soothing impact in anxious circumstances (Thayer et al., 2010). This simple exercise not just gives a sense of relaxation but gives the speaker a sense of control over physical manifestations of anxiety and it only requires a few minutes of in-class time.

From all of the studies mentioned, it can be gleaned that public speaking anxiety needs to be dealt with to assist Thai language learners, particularly students of Huachiew Chalermprakiet to be effective communicators; this can be done by limiting or offsetting the negative effects of anxiety that can have on their

communicative performance through deep breathing exercises which can be incorporated in speech classes or speaking courses is the focus of this study.

1.2 Research Objectives

The present study intends to:

1. Examine the level of Thai undergraduate students' public speaking anxiety.
2. Investigate the relationship between public speaking anxiety and students' oral test performance, as determined by their oral test presentation scores.
3. Examine the effectiveness of diaphragmatic breathing in reducing public speaking anxiety.

1.3 Research Questions

The specific questions that guide this study are as follows:

1. What is the level of public speaking class anxiety of Thai undergraduate students in a private university?
2. What is the relationship between Thai students' public speaking anxiety level and their oral test performance?
3. Is the 'diaphragmatic breathing' exercise effective at reducing overall self-perceived public speaking anxiety?

1.4 Conceptual Framework

This study examines public speaking anxiety as the independent variable, while the dependent variable is the oral test presentation performances as measured by students' oral tests scores. The researcher argues that perceived public speaking anxiety has a direct effect on the student's oral test performance. In addition, it is claimed that to counteract the general physical signs of public speaking anxiety that might have a negative effect on students' oral test performance, it is essential to incorporate diaphragmatic breathing exercises before oral presentation delivery.

Engaging in deep breathing exercises can combat the common physical signs of anxiety, which include sweaty palms, rapid heart rate, muscle tension, etc. Deep breathing releases endorphins, the body's natural antidote to stress hormones, and

has been proven effective to manage speaking anxiety (Howe & Dwyer, 2007). In stressful situations, it has also been demonstrated to have a calming effect (Thayer et al., 2010). This simple exercise not just gives a sense of relaxation but gives the speaker a sense of control over physical manifestations of anxiety and it only requires a few minutes of in-class time.

In this study, diaphragmatic breathing is hypothesized to reduce public speaking anxiety to improve oral test presentation performance.

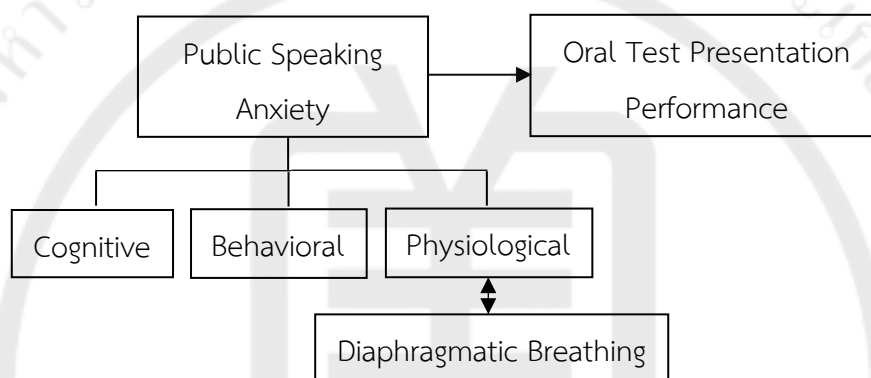


Figure 1. Conceptual Framework

1.5 Hypotheses

1. What is the level of public speaking class anxiety among Thai undergraduate students?

H1: It is hypothesized that Thai undergraduate students may have moderate to high anxiety levels of public speaking anxiety. This is based on previous studies indicating that Thai students exhibit moderate to high levels of public speaking anxiety with regards to speaking English (Bunrueng, 2008; Plangkham & Porkeaw, 2012; Tasee, 2009).

2. What is the relationship between Thai students' public speaking anxiety level and their oral test performance?

H2: It is predicted that the more anxious the students are, the poorer their oral test presentation performance would be. This hypothesis can be gleaned from several authors (Phillips, 1992; Hewitt and Stephenson, 2012; Liu and Jackson, 2008) suggesting that students who experience higher anxiety levels hinder their oral performance.

3. Is 'diaphragmatic breathing' effective in reducing overall self-perceived public speaking anxiety?

H3: It is assumed that incorporating diaphragmatic breathing exercises before oral test presentations reduces overall public speaking anxiety. This hypothesis was formulated based on the findings of Howe & Dwyer's (2007) study, which revealed that diaphragmatic breathing had a greater impact on alleviating students' self-reported overall public speaking context anxiety or communication apprehension than simply incorporating skills training in speech courses.

1.6 Scope of the Research

The target population is the group of English major students who enrolled in EG 2183 Academic Listening and Speaking in English in the academic year 2022 at Huachiew Chalermprakiet University (HCU). Purposive sampling technique was used to recruit the participants because the researcher was assigned to instruct this course subject. At the same time, this course subject focuses on speaking skills which is appropriate for gathering data from regarding public speaking anxiety.

In order to examine the level of Thai undergraduate students' public speaking anxiety, as well as investigate the relationship between public speaking anxiety and students' oral test performance, and examine the effectiveness of diaphragmatic breathing in reducing public speaking anxiety, quantitative data was collected during the first semester from August to November 2022. The students delivered three oral test presentations throughout the course. Their oral presentations were rated based on three criteria: non-verbal skills (i.e., body language, eye contact, and poise), verbal skills (i.e., enthusiasm, and speaking skills), and content (subject knowledge and language). Before the final oral test presentation, the experimental group underwent a five-minute diaphragmatic breathing exercise with the use of the 5-minute instructional video guide, while the control group took a 5 minutes break. Once they were done delivering their oral presentations, they were asked to immediately complete the Public Speaking Anxiety Scale (PSAS) questionnaire to gauge their public speaking anxiety.

1.7 Expected Benefits/ Contributions

There are various research studies that focused on examining the factors of public speaking anxiety in Thailand (Tongpoon-Deesri & Patanasorn, 2002; Boonkit, 2010) and Thai students' degree of public speaking anxiety (Bunrueng, 2008; Tasee, 2009; Tananuraksakul, 2011; Udomkit, 2003). However, there is a gap in the literature wherein no previous research has investigated the use of diaphragmatic breathing to alleviate Thai students' public speaking anxiety in particular. As far as the researcher knows, this topic has never been studied directly, especially in Thailand. Therefore, this research could potentially add to the existing body of knowledge and benefit other researchers and language teachers in general by providing insights and implications that can shed light on how to design speaking classes. It can contribute to managing and revising instructional settings for speaking courses. In addition, the data gathered as a result of this study could be practically used as guidelines with regard to reducing public speaking anxiety among Huachiew Chalermprakiet University (HCU) students when delivering oral presentations. HCU English instructors will be more aware of the impact of public speaking anxiety and adapt the use of diaphragmatic breathing to limit or reduce public speaking anxiety in speaking courses. Furthermore, learners can utilize diaphragmatic breathing whenever they experience anxiety when performing oral presentations.

1.9 Definitions of Terms

For a clear understanding of this research, the following terms are defined.

1) *Anxiety*

Merriam-Webster dictionary defines anxiety as 1a: apprehensive uneasiness or nervousness usually over an impending or anticipated ill and 1b: an abnormal and overwhelming sense of apprehension and fear often marked by physical signs (such as tension, sweating, and increased pulse rate), by doubt concerning the reality and nature of the threat, and by self-doubt about one's capacity to cope with it.

2) *Public Speaking* pertains to the act of speaking face to face to a live audience.

In this study, the students will have to deliver three oral test presentations throughout the course and will be evaluated based on three criteria: non-verbal skills (i.e., eye contact, body language, and poise), verbal skills (i.e., enthusiasm, and speaking skills) and content (subject knowledge and language).

3) *Public Speaking Anxiety* is defined in accordance with Bodie's (2010) definition as situation-specific social anxiety that arises from the real or anticipated enactment of an oral presentation. In this study, students' own subjective perceptions of their anxiety after performing their oral presentations will be gauged using the Public Speaking Anxiety Scale (PSAS) which consists of 17 items focusing on three properties: (1) behavioral, (2) cognitive, and (3) physiological.

4) *Diaphragmatic Breathing (DB)*

Physiopedia defines diaphragmatic breathing as breathing that is done by contracting the diaphragm, a muscle located horizontally between the thoracic cavity and abdominal cavity. This type of breathing involves fully engaging the stomach, abdominal muscles, and diaphragm when breathing. It actively pulls the diaphragm down with each inward breath hence filling the lungs more efficiently. It is also called "deep breathing" or "belly breathing". In this study, the students from the experimental group underwent this kind of breathing exercise for five minutes before delivering their final oral test presentations to alleviate their public speaking anxiety.

5) *Thai undergraduate students* refer to second-year bachelor's degree students majoring in English, of Thai nationality, and enrolled in EG 2183 Listening and Speaking in English during the first semester of the academic year 2022 at Huachiew Chalermprakiet University.

CHAPTER 2

RELATED LITERATURE REVIEW

2.1 Theoretical Background of Public Speaking Anxiety

2.1.1 Definition of Public Speaking Anxiety

Public speaking anxiety can be classified as a social anxiety subtype (Clevenger, 1984;). It is characterized as fear and uneasiness when speaking in front of an audience. (MacIntyre & Thivierge, 1995). According to Bodie (2010), public speaking anxiety can be referred to as situation-specific social anxiety that arises from real or anticipated enactment of an oral presentation. It can be conceptualized into two types: state anxiety (psychophysiological) and trait anxiety (personality trait).

2.1.2 State Versus Trait Public Speaking Anxiety

Public speaking anxiety can manifest in two recognizable ways, state, and trait. State anxiety refers to a transitory emotional response involving unpleasant feelings of tension and apprehensive thoughts (Spielberger, 1983). It reflects the temporary psychological and physical responses to challenging circumstances at a particular time. On the other hand, trait anxiety has been described as a personality trait referring to individual differences in the likelihood that a person would experience state anxiety in a stressful situation (Vagg, et al., 1980).

2.1.3 Three Components of Public Speaking Anxiety

As originally proposed by Lang (1968, 2004), people react in three different ways to stressful events, such as public speaking: physiological, cognitive, and behavioral. Correspondingly, when people face a real or imagined presentation, they produce these tripartite reactions.

2.1.3.1 Physiology. When a person perceives a threat or feels threatened, involuntary physiological changes occur in that person's body and mind. Perceived threats can transpire when faced with impending physical harm (e.g., a growling or snarling dog) or as a result of a psychological threat (e.g., preparing for an oral

presentation in public speaking). This involuntary reaction to physically or mentally terrifying threats is referred to as the 'fight or flight' response (otherwise known as acute stress response). Once a person perceives a threat, the sympathetic nervous system is quickly ignited and releases hormones to prepare the body to 1) fight – face and eliminate the threat or 2) flee – run, away and escape the threat. Walter Cannon first used the phrase "fight or flight" in the 1920s. He observed that a series of quick internal reactions enabled the body to mobilize its defense mechanisms in response to dangerous situations.

Cannon's theory has been extended and improved by physiologists and psychologists and came up with an additional term, 'freeze', to explain how people react to threats. Currently, it is known as the 'fight, flight or freeze' response wherein the term 'freeze' meant that a person becomes immobile or incapable of evading or avoiding a threat.

Numerous physiological changes occur during a fight-flight-freeze response. The amygdala, the region of the brain responsible for fear, is where the reaction starts. In response, the amygdala sends messages to the hypothalamus, activating the autonomic nervous system. Its role is mediated by two different components: the sympathetic nervous system and the parasympathetic nervous system. The sympathetic nervous system controls the fight-or-flight response whereas the parasympathetic nervous system regulates relaxation and sleep. The way an individual reacts is determined by which system dominates the response at the time. There are some situations wherein the sympathetic nervous system cannot cope and the parasympathetic system goes into overdrive, causing the body to shut down or freeze. In effect, someone freezes up while delivering a presentation, forgets what to say, or goes blank while presenting.

Generally, once the autonomic nervous system is activated, the body releases cortisol and adrenaline, which affect the body as follows:

- Heart - heart rate increases, and coronary blood vessels dilate, increasing the ability to flee or fight.

- Lungs - breathing becomes quicker and shallower. Breathing is restricted during the freeze response.
- Muscles - muscles tense and might cause shaking or trembling, especially if not moving.
- Skin - skin becomes pale, and face gets flushed. Hands and feet also get cold.
- Mouth - blood vessels around the mouth constricts, which causes the salivary glands to momentarily cease generating saliva and result in dry mouth.
- Stomach - digestive system slows down as the blood is diverted away from it, causing nausea or “have butterflies in the stomach” feeling.

2.1.3.2 Cognition. Thoughts also play a major role in public speaking anxiety issues. The cognitive component consists of thoughts a person thinks when anticipating, experiencing, and reflecting on a social situation or event such as public speaking. The cognitive symptoms are not necessarily observable to others and tend to be the most likely to disrupt or impair public speaking performance. This is particularly the case if an individual is: overestimating the chances of bad things will occur (e.g., “I’ll be tongue-tied and won’t be able to remember my lines.”) and underestimating their own ability as well as highly concerned about negative evaluation from others (e.g., “I am unable to do it, I’m not good enough.”; Others will laugh at me.”).

2.1.3.3 Behavioral. The behavioral component is comprised of physical actions a person takes when experiencing anxiety. These actions are observable to others and can be either positive (e.g., countering ineffective thoughts, taking a break, or doing some deep breathing) or negative (e.g., avoiding speeches, avoiding eye contact during presentation delivery). As a coping mechanism for anxiety, people have the tendency to use avoidance techniques to avoid or escape the situation especially when the anxiety levels become relatively high. Avoidance techniques that individuals often use to cope with public speaking anxiety include things such as: rushing through oral presentations in order to minimize engagement with the situation; pulling out or not showing up on the presentation day; and procrastination.

2.1.4 Effects of Public Speaking Anxiety

Yerkes-Dodson's law, originally developed by psychologists Robert Yerkes and John Dillingham Dodson in 1908, noted that stress and task performance have a correlation. Their research established that small levels of stress worked to increase performance up until a point at which the stress became excessive, decreasing performance. To put it simply, it proposes that an individual can reach maximum performance with an optimal or moderate stress level. Insufficient or excessive level of anxiety results in poorer performance.

The Yerkes-Dodson law is illustrated by an upside-down U-shaped curve. The left side of the curve depicts low arousal, or anxiety and the right side depicts high arousal while the center is an optimum level of arousal. The vertical line on the left side goes from poor performance to peak performance. The center of the curve corresponds to the optimal state of arousal and performance.

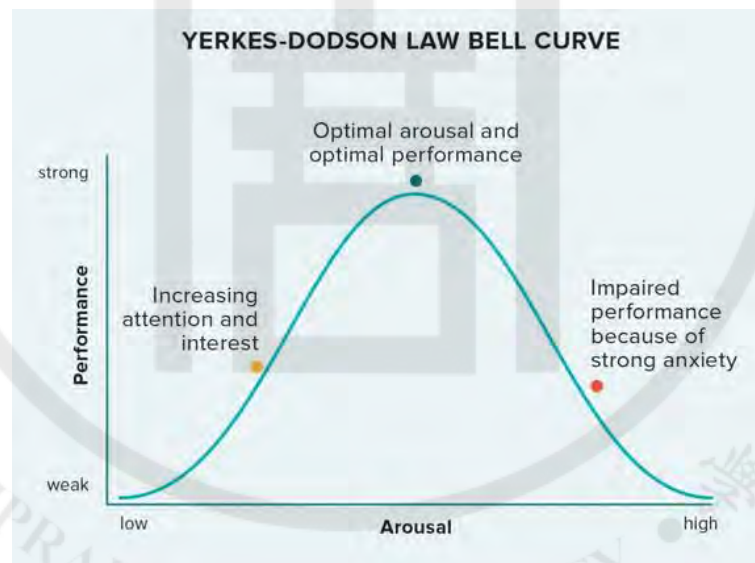


Figure 2. Yerkes-Dodson Law Bell Curve

Low arousal. To explain further in a public speaking situation, having insufficient stress or anxiety is a disadvantage with regards to performance. For instance, when an individual is required to give an oral presentation, indifference sets in leading to procrastination. This happens when someone is too laid-back and unbothered to

prepare for the presentation. There is no stress or motivation to go above the upside-down U-curve.

Optimal arousal. With a moderate level of stress, individuals become more motivated and focused in giving oral presentations which would eventually enhance their performance. When required to give an oral presentation, that person has the tendency to become motivated and be well prepared for their presentation. As Li (2020) noted, with a moderate amount of nervousness in public speeches, the speakers tend to be more concentrated on their speeches, thus reducing the error rate.

High arousal. Excessive stress levels can be detrimental. As soon as someone experiences elevated anxiety when required to give oral presentations, that person tends to have negative self-thoughts about it which leads them to seek potential avenues to escape or avoid the oral presentation (e.g., acting sick on the day of the presentation). Extreme stress can also lead to a fight-flight-freeze reaction during oral presentations. Since oral presentations can be considered stressful and frightening, the body involuntarily undergoes physiological changes (e.g., shortness of breath, dry mouth, forgetting what to say) while delivering presentations.

2.1.5 Factors of Public Speaking Anxiety

Public speaking anxiety is influenced by a number of factors. One factor that amplifies students' public speaking anxiety is having low linguistic capabilities. As Ellis (2015) stated, learners with inadequate linguistic knowledge (e.g., pronunciation, lexis, grammar) have a propensity for having high anxiety levels. A similar conclusion was made by Melouah (2013) that the sources of anxiety come from low language proficiency. In addition, pronunciation is also an obstacle that makes students feel stressed. According to Tanveer (2007), students who received immediate negative feedback from the audience on their pronunciation made them feel stressed. In terms of affective domains, Udomkit (2003) posited that interpersonal evaluation, lack of confidence, and lack of self-esteem alleviate speaking anxiety. In the same vein, Ohata (2005) concluded that absence of self-confidence and dreading negative assessments instigated students' anxiety. Aside from the learner-related factors mentioned, several other anxiety-inducing external factors can also be attributed to speaking anxiety such

as lack of teacher support, dearth of personal attention, and insensitive personality (Day & Gu, 2013; Siyli & Kafes, 2015). Additionally, teacher-related factors are also considered contributors to anxiety. In Subasi's (2010) study, it was revealed that students' anxiety during English oral practice was caused by teachers' attitudes and teaching methods.

2.1.6 Relationship Between Public Speaking Anxiety and Oral Performance

Numerous studies have been conducted to investigate the relationships between anxiety and various aspects of speaking ability, and it has been proposed that oral activities are linked to higher levels of anxiety. (Gregersen & Horwitz, 2002; Liu & Jackson, 2008; Zhang, 2004). Predominantly, it was discovered that anxiety and oral performance have a negative relationship. Simply put, anxiety can be attributed to poor performance. The higher the anxiety experienced by a learner, the poorer their speaking performance tends to be. For example, a learner freezes up when compelled to speak in front of their peers resulting in poorer performance. Despite this claim, other scholars opposed it and hold the view that poor language performance contributes to speaking anxiety. As claimed by Sparks and Ganschow (2007), anxiety is caused by poor achievement, not the other way around. Low performance, caused by insufficient linguistic knowledge, is regarded as the cause of anxiety rather than the result.

2.2 Public Speaking Anxiety Among Thai Students

Several studies reveal that Thai students exhibit moderate to high levels of public speaking anxiety with regard to speaking English. As to factors, it was mentioned that numerous factors influence their anxiety.

A study by Bunrueng (2008) which focused on determining Thai students' speaking anxiety and the factors affecting it disclosed that Thai students have a high level of speaking anxiety. With regards to factors affecting their speaking anxiety, it was revealed that students felt most anxious when they lack preparation in speaking English which makes them less likely to participate in class discussions. It was also noted that students felt troubled whenever they are asked by their teachers to speak

up, and felt worried about their grammar usage. Moreover, they felt embarrassed when making mistakes, have low confidence in speaking, and are shy in speaking English with their peers.

In the same vein, Tasee's (2009) investigation on the degree of speaking anxiety of English major students and factors affecting their speaking anxiety found that the participants have a moderate degree of speaking anxiety and the main cause is fear of negative evaluation. Additionally, it was found that students who believed they had poor speaking English proficiency had a persistently high level of speaking anxiety.

Plangkham & Porkaew (2012) investigated Thai students' level of public speaking anxiety in four different stages: pre-preparation, preparation, pre-performance, and performance. The factors that contributed to their anxiety at each stage were also examined. It was revealed in the findings that the students experienced a high level of anxiety in two stages: pre-preparation and performance while the other two stages reveal moderate anxiety levels. Personality, English grammar, and pronunciation are considered accountable for their high anxiety level.

2.3 Public Speaking Anxiety Interventions

Various methods have been proven by researchers to be effective in reducing public speaking anxiety including systematic desensitization, cognitive restructuring, visualization, and relaxation techniques such as diaphragmatic breathing exercises.

2.3.1 Systematic Desensitization

Systematic desensitization also known as graduated exposure therapy, is a type of behavioral therapy developed by Joseph Wolpe in 1958. McCroskey (1972) proposed this intervention as the primary method of assisting undergraduate students enrolled in introductory speech courses in reducing or managing their public speaking anxiety. The goal of this intervention is for individuals to learn how to cope with or overcome fears through repeated exposure. This means, that the more people are exposed to a negative or aversive stimulus (e.g., public speaking), the less anxious they eventually become.

In systematic desensitization, it follows an exposure hierarchy wherein the individual must first identify what causes their public speaking anxiety (i.e., objects, situations, or events) and construct a list of those that make them anxious or fearful and then rank those in ascending order of intensity. Once the list of the hierarchy of fears is constructed, individuals can start gradually exposing themselves, with the help of a therapist or trained teachers, to their fears in stages in order to eventually get comfortable with it. According to Lane et al. (2009), a typical hierarchy of fears for public speaking can include reading about speeches by oneself in one's room (low level), dressing the morning of a speech (mid-level), and approaching the stage in front of an audience (high level).

2.3.2 Cognitive Restructuring

Cognitive restructuring is another method of reducing anxiety in public speaking. This method focuses on changing one's negative or irrational thought patterns about public speaking with a more constructive outlook towards it and more positive thoughts about oneself. It aims to eliminate the effect of negative self-image which is the primary source of public speaking anxiety and use a positive self-image to produce a positive outcome. Restructuring our approach to dealing with public speaking anxiety begins with cognitively processing through our fears and realizing that many of the accompanying beliefs are irrational (Allen et al., 2009).

In this technique, it follows three steps: (1) individuals first address their specific anxieties regarding public speaking, (2) including any negative self-statements; (3) a qualified clinician/therapist then demonstrates how each belief is unfounded and irrational and presents a coping statement that can be utilized when speaking, such as "I can handle this." (Bodie, 2010).

2.3.3 Visualization

Visualization is another method that helps reduce public speaking anxiety by giving people confidence. It is a method that mainly focuses on building self-efficacy by visualizing oneself delivering a successful speech (Ayres et al., 1997). For example, anxious individuals can imagine themselves being calm and confident in front of

audiences and once they are in that actual speaking situation, they can retrieve the imagined scenario of confidence and have a higher tendency to perform better.

According to Froggatt (2003), a more specific type of visualization can help reduce fear of public speaking and calls it rational visualization or coping rehearsal. In this type of visualization, an individual is encouraged to visualize oneself doing a presentation and imagine the things that may supposedly go wrong. For instance, might encounter glitches with PowerPoint presentation slides, suffers mind blank, disinterested audiences, etc. In this method, the individual has to work out the strategies to use in this “what if” situation and then visualize oneself implementing the strategies and successfully coping with the imaginary situation.

The majority of these interventions involve the assistance of a therapist, professional procedures and require a great deal of class time in teaching and practicing these interventions if incorporated in speech or speaking courses. In addition, these interventions have primarily been behavioral-based and/or cognitive therapies (Ebhrhimi et al., 2019). Howe & Dyer (2007) suggested one technique, diaphragmatic breathing, that can be used in classrooms to decrease public speaking anxiety, and it only requires a very short period (few minutes) of in-class time. Nonetheless, diaphragmatic breathing has received limited research attention in the communication literature (Howe & Dyer, 2007).

2.4 Diaphragmatic Breathing

Breathing is important in regulating the automatic nervous system, which is activated when stress and anxiety occur. It has a direct impact on the autonomic nervous system’s activity, including the heart rate (Russo, 2017). The autonomic nervous system is divided into two parts that control involuntary actions such as heart rate and digestion. The sympathetic nervous system, for example, regulates the fight-or-flight response. The parasympathetic nervous system, on the other hand, regulates the rest-and-relax response. In stressful circumstances, such as public speaking, the sympathetic nervous system is triggered, and people frequently respond by breathing quickly and shallowly as the heart rate rises. This means, one’s breathing rate and

pattern change as part of the ‘fight-or-flight’ response. When an individual is in this ‘fight-or-flight’ state, it is difficult to consciously slow one’s heartbeat and relax muscles. Fortunately, individuals have the power to deliberately change their own breathing through breathing exercises. In contrast to other unconsciously expressed physiological indices of anxiety, respiration is expressed both consciously and unconsciously. By using diaphragmatic breathing, a person can ignite their parasympathetic nervous system to take over, stimulating a decrease in their heartbeat and relaxing both body and mind.

Diaphragmatic breathing is also called “belly breathing” or “deep abdominal breathing”. As Sawani (2021) elaborated, “When someone is engaging in this type of breathing, they contract their diaphragm by exercising a deeper form of inhaling (and eventually, exhaling) that extends into their belly. Typically, individuals breathe in their chests, which many refer to as ‘shallow breathing’ that can actually exacerbate feelings of anxiety and worry. Through this deeper exchange of incoming oxygen and outgoing carbon dioxide, one’s body, as well as the nerves, are calmed down.” According to Norris (2002), diaphragmatic breathing is one of the most effective ways of calming the autonomic nervous system and reverse the effects brought on by stimulating the sympathetic nervous system. In addition to achieving moderate relaxation, practicing just ten deep-abdominal breaths can significantly lessen physiological reactions to panic and anxiety (Bourne, 2000). Furthermore, it can lead to a reversal of the stress response caused by public speaking anxiety (West, 2021). Purposeful deep breathing can physically calm the nerves, and reduce stress and anxiety.

2.5 Effect of Diaphragmatic Breathing on Reducing Public Speaking Anxiety

There are myriad benefits of diaphragmatic breathing exercises that have been documented in clinical studies, including reducing stress, anxiety, and depression (Anju et al., 2015; Brown and Gerbarg, 2005; Tekur et al., 2012, Wilkinson et al., 2001), treatments for mental conditions such as phobias (Friedman and Thayer, 1998) and post-traumatic stress disorder (Descilo et al., 2010; Goldin & Gross, 2010; Sahar et al., 2001) and aiding in physical processes such as sleep, pain control, and even digestion (Hetterich and Stengel, 2020). However, there is still a lack of empirical studies on the

use of diaphragmatic breathing in reducing public speaking anxiety in communication studies. Only a few studies in social sciences have delved into reducing public speaking anxiety through diaphragmatic breathing exercises.

In German et al., (2003) study, they explored the impact of diaphragmatic breathing on reducing public speaking anxiety. They examined whether skills training accompanied with diaphragmatic breathing prior to giving a speech is much more effective than having skills training alone. The experimental group who were exposed to diaphragmatic breathing reported less speech anxiety during all speeches than those in the control group who only received skills training. They concluded that diaphragmatic breathing does decrease communicative apprehension.

Howe & Dwyer (2007) investigated the effectiveness of using diaphragmatic breathing in reducing anxiety for public speaking students. They examined whether a public speaking course that simply focuses on skills training is more effective at lowering student self-reported state anxiety as measured by the PRCA-24 (McCroskey, 1982) than one that also incorporates diaphragmatic breathing. In line with the findings, from the first to the fourth speech, state anxiety significantly decreased in both the control group and the experimental group. The experimental group, however, was shown to have decreased more than the control group did throughout all speech periods, according to overall data. It was concluded that diaphragmatic breathing is a feasible and effective treatment intervention for students who reported experiencing greater levels of anxiety when giving a public speech.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Research Design

In order to have a comprehensive outcome of the study, an experimental research design was used.

1. Participants

As argued previously, 38 English major students enrolled in EG 2183 Listening and Speaking in English during the first semester of the academic year 2022 at Huachiew Chalermprakiet University were recruited. The participants are homogenous in their native language but heterogeneous in gender, age, grades in previous speaking course, and level of English proficiency (Table 1).

Table 1. Details of the Participants'

No.	Code	Gender	Age	Grades in Previous Speaking Course	English Proficiency Level
1	CF1	Female	20	A	B1
2	CF2	Female	19	B+	B1
3	CF3	Female	19	B	B1
4	CF4	Female	21	A	B1
5	CM1	Male	20	A	B1
6	CM2	Male	20	B	B1
7	CF5	Female	19	A	B2
8	CF6	Female	19	A	B2
9	CF7	Female	20	A	B2
10	CF8	Female	20	B	B1
11	CF9	Female	19	B	B1
12	CF10	Female	20	A	B1

13	CF11	Female	19	B	B1
14	CF12	Female	20	A	B1
15	CF13	Female	20	B+	B1
16	CF14	Female	19	C	B1
17	CM3	Male	20	A	B1
18	CM4	Male	20	C+	A2
19	CM5	Male	19	C+	A2
20	DBF1	Female	20	A	B1
21	DBF2	Female	20	A	B1
22	DBF3	Female	20	A	B1
23	DBF4	Female	19	A	B1
24	DBM1	Male	20	B	B1
25	DBM2	Male	20	B	B1
26	DBF5	Female	19	A	B2
27	DBF6	Female	20	A	B2
28	DBM3	Male	20	A	B2
29	DBF7	Female	20	A	B2
30	DBF8	Female	19	B	B1
31	DBF9	Female	20	B	B1
32	DBF10	Female	20	B+	B1
33	DBM4	Male	19	B	B1
34	DBF11	Female	20	A	B1
35	DBM5	Male	20	B	B1
36	DBF12	Female	20	A	B1
37	DBF13	Female	19	C+	A2
38	DBF14	Female	21	B	A2

Each participant received an informed consent form in order for them to understand the purpose, procedures, potential risks, and benefits of their involvement, and their alternative to participation. In addition, they were informed of their right to withdraw from the research at any time.

The participants had the right to remain anonymous; therefore, they were assigned fictitious names to protect their confidentiality and anonymity when describing and reporting the findings.

2. Research instruments

1. Public Speaking Anxiety Scale (PSAS)

The Public Speaking Anxiety Scale (see Appendix A) by Bartholomay & Houlihan (2016) was administered to measure the students' public speaking anxiety. This instrument gauged students' own subjective perceptions of their anxiety. It consisted of 17 items aimed to assess speaking anxiety focusing on three properties: (1) behavioral, (2) cognitive, and (3) physiological. Each item on the PSAS was rated on a five-point Likert scale, ranging from 1 (not at all) to 5 (extremely). There are five items (6,7,8,16, and 17) that were reverse-coded. This entails that option 5 denotes "not at all" instead of "extremely" and vice versa. The scores on this self-report measure can range from 17 to 85. Scores higher than 64 were viewed as high anxiety, between 51-63 as moderate anxiety, and lower than 51 as low anxiety.

In this study, the PSAS was chosen to measure PSA because it targets and measures the three components of anxiety identified by Lang (1971), which is the emphasis of this investigation, as opposed to other self-report scales that are limited to measuring a single aspect of anxiety (e.g., cognitive). Furthermore, few other scales that do assess the three-component model require extensive time to complete (e.g., PRPSA; McCroskey, 1970) and have elements that are both positively and negatively worded items, making them subject to acquiescence (e.g., SATI; Cho, Smits & Tech, 2004). Thus, using PSAS in the study is both theoretically and practically proper.

Furthermore, for students to understand the items of the questionnaire completely, the PSAS was translated into Thai and back translation to English, by professional translators before its distribution. Also, the Thai translation of PSAS was piloted for students to see its validity and reliability. The pilot study was carried out on 44 second-year English-Chinese major students who have similar backgrounds to that of the target participants. After the pilot test, the PSAS was adopted and used in

the study with no modification. The internal consistency of PSAS was measured by Cronbach's alpha coefficient. Cronbach's alpha was found to be .88, indicating that it has high internal consistency.

2. Oral tests

2.1. First oral test presentation

The first topic that was discussed in class, based on the coursebook Q Skills for Success, Level 2: Listening and Speaking, focused on “sustainable architecture”. Thus, in their first oral test presentation, the students were asked to present their ideal office building design located in the main business district of Bangkok with an emphasis on sustainable architecture. Their task was to deliver a presentation in front of the whole class. During the preparation time, they had to write a draft of their talk and rehearse it before the first oral test.

2.2 Midterm oral test presentation

Since the topic of week 7 of the course, based again on the coursebook, focused on “the importance of games”, the students were asked to give a persuasive presentation. The students searched for an online game that they thought is beneficial for improving their English language. The students were tasked to present it and persuaded their peers that the game they found is the best online game for learning English. Each student was given three minutes to present. They were given preparation time to write a draft and rehearse before the oral test.

2.3 Final oral test presentation

Since the last topic of the course focused on “environmental issues”, the students were asked to give a persuasive presentation. A case study related to global warming and natural disasters was given to them and they needed to think of solutions along with the advantages and disadvantages of the solutions they thought of. The students were tasked to persuade their peers that their solution to the case study is the best one. Each student was given three minutes to present. They were given preparation time to write a draft and rehearse before the oral test.

2.4 Raters and Speaking Rubric

The students' speaking performances (midterm and final) were evaluated by one native English speaker (British) and one non-native English speaker (Filipino). The Pearson coefficient (r) for inter-rater reliability for the two raters is .73, indicating that the degree of agreement among the two raters is high.

A speaking rubric (see Appendix B) was used in assessing the students' oral test performance focusing on three criteria: non-verbal (body language, eye contact, & poise), verbal (enthusiasm, and speaking skills), and content (subject knowledge & language). Each oral aspect of the speaking rubric can be scored from 1-4. The possible range score for the oral test was 7-28. The oral test scores were used to determine their oral test performance.

3. Diaphragmatic breathing video guide

A 5-minute instructional video on diaphragmatic breathing exercises was created and used for this study. For credibility and for the students to execute the diaphragmatic breathing correctly and accurately, a Thai medical doctor was asked to demonstrate the breathing exercises in the video. It was also in a Thai soundtrack with English subtitles for the students to fully comprehend the steps. The video contained a short description and purpose of diaphragmatic breathing and detailed steps as to how to execute it.

3.2 Data Collection and Analysis

To obtain the students' level of public speaking anxiety, descriptive data analysis was conducted and the results were reported in the form of means, standard deviation, minimum and maximum scores, and percentages.

To answer the second question, the Pearson correlation coefficient (also referred to as Pearson's r) was carried out to determine the correlations between Thai students'

public speaking anxiety level, as measured by PSAS scores, and oral test performances, as determined by their oral test presentation scores.

To determine the effectiveness of diaphragmatic breathing at reducing public speaking anxiety, two non-parametric tests were conducted, specifically: 1) Wilcoxon Signed-Rank Test which was used to compare the midterm oral test and final oral test public speaking anxiety levels of each group, and 2) Mann Whitney U-Test to compare the final oral test anxiety levels of the control and experimental group.

Since the population sample size of 38 in this study is relatively small, it is possible that it will be unable to validate the distribution of the data. As a result, the application of nonparametric tests was used. The Wilcoxon Signed Rank Test and the Mann Whitney U Test are nonparametric variations of the paired samples t-test and independent samples t-test, respectively.

3.3 Procedure

Within the second week of the semester, the students were scheduled to have their first oral test presentation to determine the participants' baseline of public speaking anxiety. The students delivered a three-minute presentation on "sustainable architecture" in a normal setting – students sitting in the room waiting for their turn to do the presentation, without any intervention (no diaphragmatic breathing exercise). After each student had finished delivering their presentations, they were asked to electronically fill out the PSAS questionnaire to find out their anxiety level.

The class which consists of only one section was divided randomly into two groups based on the results of the PSAS questionnaire. Mann-Whitney U test, a statistical data analysis, was also carried out to confirm whether the two groups (experimental versus control) are comparable.

On week eight of the semester, the students were scheduled for their midterm oral test presentation. The students had to deliver a three-minute presentation on "the importance of games". Everyone was asked individually to leave the classroom

and take a five-minute short break without any intervention (no diaphragmatic breathing exercise) before giving their presentation. Immediately following each student's oral test presentation, a hyperlink of the translated PSAS questionnaire was individually sent, one at a time, to their Microsoft Teams account. They had to fill out the questionnaire immediately following each student's oral test presentation.

The drill of the presentation is as follows:

1. The first presenter was asked to spend a five-minute short break outside the presentation room freely. He/she was allowed to do whatever he/she pleases during this time.
2. After five minutes, the first presenter was called in to perform the oral presentation while the second presenter was asked to leave the presentation room to spend a five-minute short break just like the first presenter.
3. Once the first presenter finished performing, he/she was asked to return to his/her seat and electronically fill out the PSAS questionnaire.
4. The second presenter was called in to enter the presentation room to deliver the presentation and fill out the questionnaire afterward while the third presenter was asked to leave the room and spent five minutes outside the room.
5. This drill was repeated until the last presenter.

For the final week (Week 15) of the semester, the students were scheduled for their final oral test presentations. They were tasked to deliver a persuasive presentation on "environmental issues". Before the presentation delivery, half of the class (control group) was asked individually to leave the classroom and take a five-minute short break whereas the other half (experimental) had to go into another room individually and were led through a five-minute diaphragmatic breathing exercise using the video tutorial guide demonstrated by a Thai doctor.

Five minutes were devoted to diaphragmatic breathing exercises. This is per Bourne's (2000) suggestion that practicing just ten deep-abdominal/belly breaths for three to five minutes at a time can induce moderate relaxation and lessen

physiological response to panic and anxiety. Five minutes of diaphragmatic breathing efficiently increase parasympathetic activity and decreased perceived anxiety level (Russo et al., 2017; Wehrwein et al., 2016, Ogletree-Hughes et al., 2001).

The drill of the presentation is as follows:

1. The first presenter (control group) was asked to spend a five-minute short break outside the presentation room freely. He/she was allowed to do whatever he/she pleases during this time.
2. After five minutes, the first presenter was called in to perform the oral presentation while the second presenter (experimental group) was asked to leave the presentation room to spend five minutes in another room and was led to complete the diaphragmatic breathing exercise through a video tutorial guide.
3. Once the first presenter finished performing, he/she was asked to return to his/her seat and electronically fill out the PSAS questionnaire. The second presenter was called in to enter the presentation room to deliver the presentation and fill out the questionnaire afterward while the third presenter (control group) was asked to leave the room and spend five minutes outside the room.
4. This drill was repeated until the last presenter.

In short, the control group was asked individually to leave the presentation room and take a five-minute short break. While the other half (experimental) had to go into another room individually and were led through a five-minute diaphragmatic breathing exercise using the video tutorial guide. Immediately following each student's oral test presentation, they needed to fill out the PSAS questionnaire.

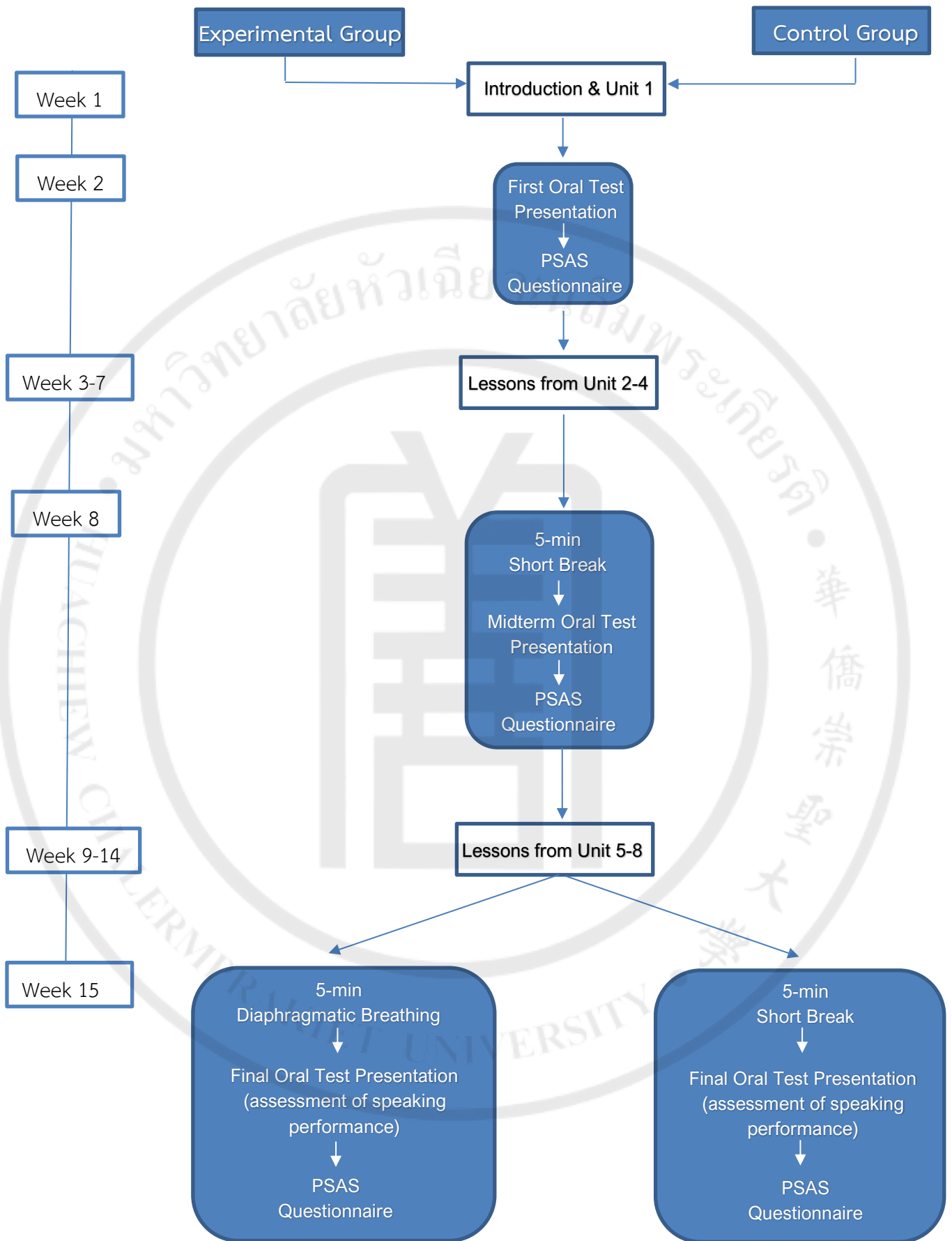


Figure 3. Research Procedure

CHAPTER 4

RESULTS

In this chapter, the results of the data analysis are presented. The collected data were examined to find out (1) the level of Thai undergraduate students' public speaking anxiety, (2) the relationship between public speaking anxiety and students' oral test performance, as determined by their oral test presentation scores, (3) the effectiveness of diaphragmatic breathing in reducing public speaking anxiety.

All 38 students from EG 2183 Advanced Listening and Speaking course, participated in the study. There were 10 (26.32 %) males and 28 (73.83 %) females. The translated PSAS had an internal reliability alpha coefficient of .88, indicating high internal reliability.

The class, which had only one section, was randomly divided into two groups based on the results of the PSAS questionnaire. A statistical data analysis, the Mann-Whitney U test, was also performed to confirm whether the two groups (experimental and control) were comparable.

Table 2. Mann-Whitney U-test Comparing the Public Speaking Anxiety Scores of Both Groups During the First Oral Presentation (Ranks)

		Ranks		
Group		N	Mean Rank	Sum of Ranks
Public Speaking Anxiety Scores	1) Experimental	19	19.29	366.50
	2) Control	19	19.71	374.50
Total		38		

Table 3. Mann-Whitney U-test Comparing the Public Speaking Anxiety of Both Groups During the First Presentation (Test Statistics)

Test Statistics ^b	
	Public Speaking Anxiety
Mann-Whitney U	176.500
Wilcoxon W	366.500
Z	-.117
Asymp. Sig. (2-tailed)	.907
Exact Sig. [2*(1-tailed sig.)]	.908 ^a

a. Not corrected for ties.

b. Grouping Variable: 1 - Experimental; 2 - Control

Table 4. Summary of the Statistical Results of Both Groups (First Presentation)

Between Groups	Public Speaking Anxiety During First Oral Presentation					
	N	Mean	Mdn	SD	U	Sig.
Experimental Group (Diaphragmatic Breathing)	19	58.11	58.0	13.39		
Control Group (5 mins break)	19	58.73	59.0	13.74	176.5	p=0.91

The results of the Mann-Whitney U test (Tables 2 to 4) indicated that there was no significant difference between the PSAS scores of the experimental group and the control group, $U = 176.50$, $p = 0.91$. This indicates that the two groups (experimental versus control) are indeed comparable.

4.1 Answer to Research Question 1

Research Question 1: What is the level of public speaking class anxiety among Thai undergraduate students?

Table 5 summarizes the average frequencies of the participants' responses to PSAS during the first presentation in Week 2, showing participants' subjective perceptions of their anxiety toward public speaking. The majority of participants concurred with the items in PSAS and showed a negative and apprehensive attitude toward public speaking. For instance, Item 1 - *"Giving a speech is terrifying"* (50.00%), Item 2 - *"I am afraid that I will be at a loss for words while speaking"* (44.74%), Item 3 - *"I am nervous that I will embarrass myself in front of the audience"* (47.37%), Item 11 *"I feel tense before giving a speech"* (50%).

Table 5. Frequencies and Percentages of Participants' Responses to PSAS

	Item	(1) Not at all	(2) Slightly	(3) Neutral	(4) Very	(5) Extremely	Total
1	Giving a speech is terrifying.						
	Control Group						
	F	0	0	3	6	10	19
	%	0.00%	0.00%	15.79%	31.58%	52.63%	
	Experimental Group						
	F	0	0	3	7	9	19
%	0.00%	0.00%	15.79%	36.84%	47.37%		
Overall							
F	0	0	6	13	19	38	
%	0.00%	0.00%	15.79%	34.21%	50.00%		

2	I am afraid that I will be at a loss for words while speaking.						
	Control Group						
	F	0	0	5	6	8	
	%	0.00%	0.00%	26.32%	31.58%	42.10%	19
	Experimental Group						
	F	0	0	4	6	9	
	%	0.00%	0.00%	21.05%	31.58%	47.37%	19
	Overall						
	F	0	0	9	12	17	
	%	0.00%	0.00%	23.68%	31.58%	44.74%	38
3	I am nervous that I will embarrass myself in front of the audience.						
	Control Group						
	F	0	1	2	7	9	
	%	0.00%	5.26%	10.53%	36.84%	47.37%	19
	Experimental Group						
	F	0	1	1	8	9	
	%	0.00%	5.26%	5.26%	42.11%	47.37%	19
	Overall						
	F	0	2	3	15	18	
	%	0.00%	5.26%	7.90%	39.47%	47.37%	38
4	If I make a mistake in my speech, I am unable to re-focus.						
	Control Group						
	F	1	0	7	8	3	
	%	5.26%	0.00%	36.84%	42.11%	15.79%	19

	Experimental Group						
	F	0	1	6	9	3	
	%	0.00%	5.26%	31.58%	47.37%	15.79%	19
	Overall						
	F	1	1	13	17	6	
	%	2.63%	2.63%	34.21%	44.74%	15.79%	38
5	I am worried that my audience will think I am a bad speaker.						
	Control Group						
	F	1	1	2	10	5	
	%	5.26%	5.26%	10.53%	52.63%	26.32%	19
	Experimental Group						
	F	1	1	2	10	5	
	%	5.26%	5.26%	10.53%	52.63%	26.32%	19
	Overall						
	F	2	2	4	20	10	
	%	5.26%	5.26%	10.53%	52.63%	26.32%	38
6	I am focused on what I am saying during my speech.						
	Control Group						
	F	5	6	3	4	1	
	%	26.32%	31.58%	15.79%	21.05%	5.26%	19
	Experimental Group						
	F	4	5	4	5	1	
	%	21.05%	26.32%	21.05%	26.32%	5.26%	19
	Overall						
	F	9	11	7	9	2	
	%	23.68%	28.95%	18.42%	23.68%	5.26%	38

7	I am confident when I give a speech.						
	Control Group						
	F	11	8	0	0	0	
	%	57.89%	42.11%	0.00%	0.00%	0.00%	19
	Experimental Group						
	F	11	8	0	0	0	
	%	57.89%	42.11%	0.00%	0.00%	0.00%	19
	Overall						
	F	22	16	0	0	0	
	%	57.89%	42.11%	0.00%	0.00%	0.00%	38
8	I feel satisfied after giving a speech.						
	Control Group						
	F	0	1	4	12	2	
	%	0.00%	5.26%	21.05%	63.16%	10.53%	
	Experimental Group						
	F	0	1	4	11	3	
	%	0.00%	5.26%	21.05%	57.89%	15.79%	19
	Overall						
	F	0	2	8	23	5	
	%	0.00%	5.26%	21.05%	60.53%	13.16%	38
9	If I make a mistake in my speech, I am unable to re-focus.						
	Control Group						
	F	0	2	6	7	4	
	%	0.00%	10.52%	31.59	36.84	21.05%	19

	Experimental Group						
	F	0	1	5	8	5	
	%	0.00%	5.26%	26.31%	42.11%	26.32%	19
	Overall						
	F	0	3	11	15	9	
	%	0.00%	7.90%	28.95%	39.47%	23.68%	38
10	I feel sick before speaking in front of a group.						
	Control Group						
	F	0	1	4	8	6	
	%	0.00%	5.26%	21.05%	42.11%	31.58%	19
	Experimental Group						
	F	0	1	4	8	6	
	%	0.00%	5.26%	21.05%	42.11%	31.58%	19
	Overall						
	F	0	2	8	16	12	
	%	0.00%	5.26%	21.05%	42.11%	31.58%	38
11	I am focused on what I am saying during my speech.						
	Control Group						
	F	0	2	3	5	9	
	%	0.00%	10.52%	15.79%	26.32%	47.37%	19
	Experimental Group						
	F	0	1	3	5	10	
	%	0.00%	5.26%	15.79%	26.32%	52.63%	19
	Overall						
	F	0	3	6	10	19	
	%	0.00%	7.89%	15.79%	26.32%	50.00%	38

12	I fidget before speaking.						
	Control Group	0	0	8	4	7	
	F %	0.00%	0.00%	42.11%	21.05%	36.84%	19
	Experimental Group	0	1	8	4	6	
	F %	0.00%	5.26%	42.11%	21.05%	31.58%	19
	Overall	0	1	16	8	13	
	F %	0.00%	2.63%	42.11%	21.05%	34.21%	38
13	My heart pounds when I give a speech.						
	Control Group						
	F %	0	1	5	6	7	
		0.00%	5.26%	26.32%	31.58%	36.84%	19
	Experimental Group						
	F %	0	2	5	5	7	
		0.00%	10.52%	26.32%	26.32%	36.84%	19
	Overall						
	F %	0	3	10	11	14	
		0.00%	7.89%	26.32%	28.95%	36.84%	38
14	I sweat during my speech.						
	Control Group						
	F %	0	8	8	2	1	
		0.00%	42.11%	42.11%	10.52%	5.26%	19
	Experimental Group						
	F %	0	7	8	2	2	
		0.00%	36.84%	42.10%	10.53%	10.53%	19

	Overall						
	F	0	15	16	4	3	
	%	0.00%	39.47%	42.10%	10.53%	7.90%	38
15	My voice trembles when I give a speech.						
	Control Group						
	F	0	0	7	5	7	
	%	0.00%	0.00%	36.84%	26.32%	36.84%	19
	Experimental Group						
	F	0	1	6	5	7	
	%	0.00%	5.26%	31.58%	26.32%	36.84%	19
	Overall						
	F	0	1	13	10	14	
	%	0.00%	2.63%	34.21%	26.32%	36.84%	38
16	I feel relaxed while giving a speech.						
	Control Group						
	F	10	8	1	0	0	
	%	52.63%	42.11%	5.26%	0.00%	0.00%	19
	Experimental Group						
	F	10	8	1	0	0	
	%	52.63%	42.11%	5.26%	0.00%	0.00%	19
	Overall						
	F	20	16	2	0	0	
	%	52.63%	42.11%	5.26%	0.00%	0.00%	38

17	I do not have problems making eye contact with my audience.						
	Control Group						
F		3	12	4	0	0	
%		15.79%	63.16%	21.05%	0.00%	0.00%	19
	Experimental Group						
F		4	11	3	1	0	
%		21.05%	57.89%	15.79%	5.26%	0.00%	19
	Overall						
F		7	23	7	1	0	
%		18.42%	60.53%	18.42%	2.63%	0.00%	38

As shown in Table 5, it displays the level of public speaking anxiety as indicated by the responses of the participants obtained through PSAS. Each item on the PSAS was rated on a five-point Likert scale, ranging from 1 (not at all) to 5 (extremely). There are five items (6,7,8,16, and 17) that were reverse-coded. This entails that option 5 denotes “not at all” instead of “extremely” and vice versa. The total value of PSAS indicates the participants’ public speaking anxiety. According to Bartholomay & Houlihan (2016), scores higher than 64 are viewed as high anxiety, between 51 and 63 as moderate anxiety, and lower than 51 as low anxiety. In this study, the mean of PSAS is 64.83 (SD = 6.61, N = 38). It reveals that the majority of the participants experienced a “high” level of public speaking anxiety.

Table 6. Descriptive Statistics of PSAS (N=38)

	N	Minimum	Maximum	Mean	Std. Deviation
PSAS	38	50.00	77.00	64.8250	6.61225

The descriptive results in Table 7 suggest that 60.53% of the participants scored higher than 64 which indicates a high level of public speaking anxiety. The percentage of participants who experience a moderate level of public speaking anxiety is 28.95%. Whereas, only 10.53% of them scored less than 51.

Table 7. Participants' Level of Speaking Anxiety

Level of public speaking anxiety	Number of respondents	Percentage
High (>64)	23	60.53%
Moderate (51-63)	11	28.95%
Low (<51)	4	10.53%
Total	38	100%

4.2 Answer to Research Question 2

Research Question 2: What is the relationship between Thai students' public speaking anxiety level and their oral test performance?

The result of the Pearson correlation (see Table 8) between public speaking anxiety as measured by PSAS of the final oral presentation and the student's oral test performance of the final presentation as measured by their speaking test scores was highly statistically significant and in a strong and negative or inverse relationship, $r(36) = -.87, p < .001$.

Table 8. Pearson Correlation Result of Public Speaking Anxiety and Speaking Performance

		Public Speaking Anxiety	Speaking Presentation Scores
Public Speaking Anxiety	Pearson Correlation	1	-.867**
	Sig. (2-tailed)		.000
	N	38	38
Speaking Presentation Scores	Pearson Correlation	-.867**	1
	Sig. (2-tailed)	.000	
	N	38	38

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

Figure 4 displays the scatterplot of the public speaking anxiety scores of the participants and their oral test presentation scores. As shown in the figure, when public speaking anxiety scores tend to decrease, oral test presentation scores increase. Accordingly, it can be held that there is a negative correlation between public speaking anxiety scores and oral test performance scores. Moreover, the strength of correlation based on its r value was at a strong level.

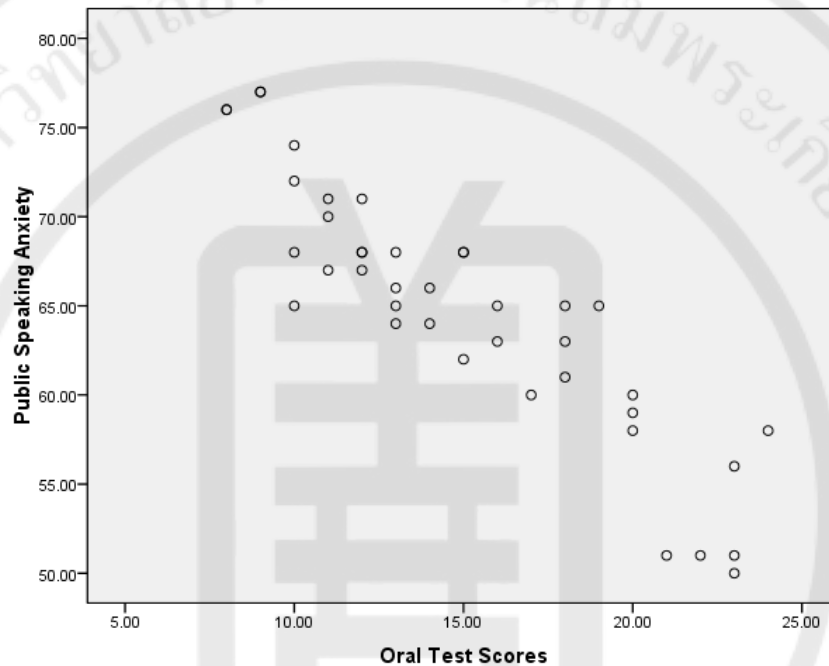


Figure 4. Pearson Correlation Result (Scatterplot)

The general guidelines for interpreting the strength and direction of the relationship between the two variables (public speaking anxiety scores and oral test presentation scores) are presented in Table 9.

Table 9. Guidelines for Interpreting Pearson Correlation Coefficient (r)

Strength of Relationship Between Variables	Positive	Negative
Weak	.10 to .29	-.10 to -.29
Moderate	.30 to .49	-.30 to -.49
Strong	.50 to 1.00	-.50 to -1.00

4.3 Answer to Research Question 3

Research Question 3: Is ‘diaphragmatic breathing’ effective in reducing overall self-perceived public speaking anxiety?

In order to examine the effectiveness of diaphragmatic breathing in reducing overall self-perceived public speaking anxiety, the difference between the control group’s public speaking anxiety during the midterm speaking presentation and public speaking anxiety during the final speaking presentation was examined, and descriptive statistics were calculated. Table 10 shows the means, standard deviations, and medians of the control group’s midterm and final public speaking anxiety.



Table 10. Public Speaking Anxiety Scores During Midterm and Final Oral Presentations of the Control Group

No.	Code	Midterm Oral Presentation	Final Oral Presentation	Difference
1	CF1	63	64	1
2	CF2	62	61	1
3	CF3	64	63	1
4	CF4	58	57	0
5	CM1	57	55	2
6	CM2	61	59	3
7	CF5	72	69	2
8	CF6	75	75	0
9	CF7	70	71	1
10	CF8	67	68	1
11	CF9	68	66	1
12	CF10	67	66	1
13	CF11	67	65	2
14	CF12	66	64	1
15	CF13	65	65	0
16	CF14	65	64	1
17	CM3	64	65	1
18	CM4	52	51	1
19	CM5	51	51	0
Mean (\bar{x})		63.89	63.05	1.1
Std. Deviation		6.15	6.27	
Median		64.00	64.00	

According to the descriptive statistics, the control group's public speaking anxiety during the final oral presentation ($\bar{x} = 63.05$) is slightly lower than their public speaking anxiety during the midterm oral presentation ($\bar{x} = 63.89$). In order to see whether this decrease in their public speaking anxiety is statistically significant, the Wilcoxon Signed-Rank Test was employed (see Table 11).

Table 11. Wilcoxon Signed-Rank Test Comparing Public Speaking Anxiety Scores of the Control Group During Midterm and Final Speaking Test (Test Statistics)

Test Statistics ^b	
Midterm – Final Oral Presentation	
Z	-1.934 ^a
Asymp. Sig (2-tailed)	0.53

a. Based on negative ranks

b. Wilcoxon Signed Ranks Test

Wilcoxon Signed-Rank Test showed that the median public speaking anxiety during the final presentation of the control group ($Mdn = 64.0$), was statistically insignificant, $Z = -1.93$, $p < .001$.

In light of this result, it can be implied that the control group did not experience a significant reduction or decrease in their public speaking anxiety.

Conversely, to examine the effectiveness of diaphragmatic breathing in reducing overall self-perceived public speaking anxiety, the difference between the experimental group's public speaking anxiety scores during midterm and final oral presentations was examined and descriptive statistics were calculated. Table 12 shows the means, standard deviation, and medians of the experimental group's public speaking anxiety scores during the midterm and final oral presentations.

Table 12. Public Speaking Anxiety Scores During Midterm and Final Oral Presentations of the Experimental Group

No.	Code	Midterm Oral Presentation	Final Oral Presentation	Difference
1	DBF1	57	53	5
2	DBF2	62	50	13
3	DBF3	63	53	8
4	DBF4	64	51	14
5	DBM1	62	52	7
6	DBM2	65	62	2
7	DBF5	72	60	14
8	DBF6	70	55	16
9	DBM3	72	52	24
10	DBF7	70	63	9
11	DBF8	65	53	14
12	DBF9	67	59	7
13	DBF10	65	56	9
14	DBM4	68	54	14
15	DBF11	64	59	5
16	DBM5	65	57	8
17	DBF12	66	51	17
18	DBF13	51	49	2
19	DBF14	49	47	3
Mean (\bar{x})		64.10	54.53	10.05
Std. Deviation		6.20	4.46	
Median		65.00	53.00	

According to descriptive statistics, the public speaking anxiety scores of the experimental group during the final oral presentation ($\bar{x} = 54.53$) were lower than in the midterm oral presentation ($\bar{x} = 64.10$).

In order to see if the difference is statistically significant, the Wilcoxon Signed-Rank Test was also conducted. Table 13 shows the Wilcoxon Signed-Rank Test results for the difference in the experimental group's public speaking anxiety during the midterm oral presentation and the final oral presentation.

Table 13. Wilcoxon Signed-Rank Test Comparing Public Speaking Anxiety Scores of the Experimental Group During Midterm and Final Speaking Test (Test Statistics)

Test Statistics ^b	
Midterm – Final Oral Presentation	
Z	-3.924 ^a
Asymp. Sig (2-tailed)	.000

a. Based on negative ranks

b. Wilcoxon Signed Ranks Test

Similarly, the Wilcoxon Signed-Rank Test was used to compare the public speaking anxiety during the midterm and final oral presentations of the experimental group. This test indicated that the public speaking anxiety scores during the final oral presentation ($Mdn = 53.0$), were statistically significantly lower than their midterm oral presentation ($Mdn = 65.0$), $Z = -3.92$, $p < .001$, with a large effect size, $r = 0.62$.

The summary of the Wilcoxon Signed-Rank test comparing the public speaking anxiety during midterm and final oral presentations of the control and experimental group is shown below.

Table 14. Summary of Wilcoxon Signed-Rank Test Comparing the Public Speaking Anxiety During Midterm and Final Oral Presentations of Both Groups

Group	Midterm < Final	Midterm > Final	Midterm = Final
Control			√
Experimental		√: large <i>r</i>	

Note:

“√” represents the result of the test

“*r*” represents the effect size

Accordingly, a further analysis was examined if there was a statistically significant difference between the two groups' results.

The Mann-Whitney U test was conducted to test the effectiveness of diaphragmatic breathing in alleviating public speaking anxiety.

The table below shows the comparison of public speaking anxiety during the final oral presentations of the control group and experimental group.

Table 15. Mann-Whitney U-test Comparing the Public Speaking Anxiety Scores of Both Groups During Final Oral Presentation (Ranks)

Group		Ranks		
		N	Mean Rank	Sum of Ranks
Public Speaking Anxiety Scores	1) Experimental	19	13.35	267.00
	2) Control	19	27.65	553.00
Total		38		-

Table 16. Mann-Whitney U-test Comparing the Public Speaking Anxiety of Both Groups During Final Presentation (Test Statistics)

Test Statistics ^b	
	Public Speaking Anxiety
Mann-Whitney U	57.000
Wilcoxon W	267.000
Z	-3.875
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed sig.)]	.000 ^a

c. Not corrected for ties.

d. Grouping Variable: 1 - Experimental; 2 - Control

Table 17. Summary of the Statistical Results of Both Groups (Final Presentation)

Between Groups	Public Speaking Anxiety During Final Oral Presentation						
	N	Mean	Mdn	SD	Z	Sig.	r
Experimental Group (Diaphragmatic Breathing)	19	54.53	53.0	4.46			
Control Group (5 mins break)	19	63.05	64.0	6.27	-3.88	p<.001	0.61

The Mann-Whitney U test indicated that individuals who experienced diaphragmatic breathing exercises (experimental group) before the final oral presentation ($Mdn = 53.0$) exhibited a reduction of public speaking anxiety than those individuals who did not experience any intervention ($Mdn = 64.0$), $Z = -3.88$, $p < .001$, $r = 0.61$ (large effect size).

CHAPTER 5

DISCUSSION, CONCLUSION, AND RECOMMENDATION

5.1 Discussion and Conclusion

The purposes of this study were to 1) examine the level of Thai undergraduate students' public speaking anxiety; 2) investigate the relationship between public speaking anxiety and students' oral test performance, as determined by their oral test presentation scores; and 3) examine the effectiveness of diaphragmatic breathing in reducing public speaking anxiety.

The results for the first research question indicated that the majority of the participants (60.53%) exhibited a high level of public speaking anxiety while very few (10.53%) experienced a low level of public speaking anxiety. The result is congruent with previous studies indicating that Thai students exhibit moderate to high levels of public speaking anxiety (Bunrueng, 2008; Plangkham & Porkaew, 2012; Tasee, 2009). In relation to factors affecting Thai students speaking anxiety, Tasee (2009) concluded that it stemmed from their fear of negative evaluation, and students who believed they had poor speaking English proficiency had a persistently high level of speaking anxiety.

Regarding the second research question, the study demonstrated a negative correlation between public speaking anxiety and students' oral test performance. It implies that students who demonstrated higher levels of public speaking anxiety fared worse on their oral test presentations in comparison to their less anxious peers. This is in line with several authors (Phillips, 1992; Hewitt and Stephenson, 2012; Liu and Jackson, 2008) suggesting that students who experience higher anxiety levels hinder their oral performance.

Similarly, The Yerkes-Dodson Law posits a curvilinear relationship between stress and performance. In particular, it states that performance is facilitated by anxiety. However, as anxiety increases beyond the optimal level, it may start to debilitate performance. In a public speaking context, speakers tend to be more focused on delivering presentations or speeches when having a moderate optimal amount of

anxiety. However, when anxiety level rises above a particular threshold, it can impair the ability to concentrate which hampers performance and reduces the speaker's overall performance.

A fight-flight-freeze reaction can also be brought on by extreme stress when giving oral presentations. Since oral presentations can be considered stressful and frightening, the body involuntarily undergoes physiological changes (e.g., shortness of breath, dry mouth, forgetting what to say) while delivering presentations. Consequently, excessive anxiety levels can have a negative impact on one's physical and mental well-being affecting the quality and overall performance of the speaker.

Individuals become more motivated and focused in giving oral presentations when under moderate stress, which improves their performance. When a person is required to give an oral presentation, they tend to become motivated and well-prepared for their presentation. As Li (2020) noted, with a moderate amount of nervousness in public speeches, the speakers tend to be more concentrated on their speeches, thus reducing the error rate.

Simply put, anxiety can be attributed to poor performance. The higher the anxiety experienced by a learner, the poorer their speaking performance tends to be. For example, a learner freezes up when compelled to speak in front of their peers resulting in poorer performance.

As for the third question, results showed that the experimental group experienced a significant reduction of their public speaking anxiety from their midterm oral presentation to their final oral presentation as compared to the control group wherein they did not experience any significant decreases in their public speaking anxiety. These results indicate that incorporating diaphragmatic breathing exercises before oral test presentations reduces overall public speaking anxiety. Diaphragmatic breathing could be a viable treatment option for students in a public speaking situation. This is congruent with Howe & Dwyer's (2007) study, in which they found that diaphragmatic breathing had a greater impact on alleviating students' self-reported overall public speaking context anxiety or communication apprehension than simply incorporating skills training in speech courses.

There are myriad benefits of diaphragmatic breathing exercises that have been documented in clinical studies, including reducing stress, anxiety, and depression (Anju et al., 2015; Brown & Gerbarg, 2005; Tekur et al., 2012, Wilkinson et al., 2001), treatments for mental conditions such as phobias (Friedman and Thayer, 1998) and post-traumatic stress disorder (Descilo et al., 2010; Goldin & Gross, 2010; Sahar et al., 2001) and aiding in physical processes such as sleep, pain control, and even digestion (Hetterich & Stengel, 2020). However, there is still a lack of empirical studies on the use of diaphragmatic breathing in reducing public speaking anxiety in communication studies. Only a few studies in social sciences, including this one, have delved into reducing public speaking anxiety through diaphragmatic breathing exercises. In addition, since earlier studies on public speaking anxiety have concentrated on longer-term interventions such as systematic desensitization, visualization, and cognitive restructuring, future research should explore the potential use of DB as a less time-consuming but effective instructional technique to help students reduce jitters and nervousness. Furthermore, health professionals advise practicing DB for five to ten minutes each time, three to four times daily, to get the most benefit from it (Goldfried & Davison, 1994). With that said, it can serve as a focal point for future research.

In conclusion, the results of the study suggest that DB is a plausible intervention technique that can be integrated into speaking courses; it is not only effective at reducing public speaking anxiety but also a less time-consuming (easy-to-do five-minute), and low-cost intervention that can enhance overall speaking performance.

5.2 Recommendations

Based on the findings and conclusions, the following recommendations are advanced:

Diaphragmatic breathing should be integrated into Huachiew Chalermprakiet University's speaking course syllabus. The collected data from the result of this study could be practically used as guidelines with regard to reducing public speaking anxiety among HCU students when delivering oral presentations in English. Incorporating diaphragmatic breathing is promising as it improves the overall communicative competence of the students.

As for language teachers, they should be supportive, patient, and encouraging, and give more positive feedback. They should provide corrective feedback (e.g., modeling) whilst avoiding overcorrection. If students have a negative outlook toward public speaking and are afraid of oral evaluations, they would likely have a negative attitude toward speaking classes in general. In addition, language teachers must recognize that Thai students experience moderate to high levels of public speaking anxiety. Teachers must be able to comprehend the nature of their students' linguistic concerns and delimit it. They should strive to create a safe, relaxed, and positive learning environment in which students can be comfortable taking risks and making mistakes—without fear of embarrassment. Furthermore, teachers must set attainable goals for public speaking presentations with optimal levels of difficulty. Lastly, give interesting and relatable topics for oral presentations; encourage students to practice and rehearse their material before delivering oral presentations and motivate them to persevere.

As to the learners, they can utilize diaphragmatic breathing whenever they experience anxiety when performing oral presentations in English. Making an effort to manage anxiety can help in public speaking. Aside from that, they should practice and rehearse the speeches out loud beforehand. It is crucial to ensure to deliver it comfortably under pressure. Repetition and being well-versed in one's own material help in remembering it and staying on track while delivering speeches. Moreover, they should observe and take notes from outstanding speakers. They should watch and learn from other people who give speeches because observing what works and what doesn't is a terrific method to practice. They should adopt such examples into one's own style. Lastly, they should project confidence when giving speeches. In the event of slipping up or losing focus, they should just get back on track and carry on.

Furthermore, despite the above-mentioned findings and implications, some limitations should be acknowledged. Firstly, a replication of this study involving a larger sample would provide further support for the generalizability of the findings. Secondly, gender differences were not investigated because few male students participated in this study. In future studies, researchers can recruit the same number of female and male subjects. Their public speaking class anxiety level and its impact on their oral

performance may differ, as revealed by Matsuda and Gobel (2004), who found that gender played a significant role in classroom foreign language performance of first-year students.

Lastly, one apparent next step in this research process is to investigate PSA using qualitative approaches such as conducting additional in-depth interviews to gain a deeper understanding of students' anxiety, contributing variables, and strategies to alleviate their PSA and, more crucially, interviews with both teachers and students to validate and build on the findings.



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APPENDIX A

Public Speaking Anxiety Scale (PSAS)

Item No.		(1) Not at all	(2) Slightly	(3) Neutral	(4) Very	(5) Extremely
1	Giving a speech is terrifying.					
2	I am afraid that I will be at a loss for words while speaking.					
3	I am nervous that I will embarrass myself in front of the audience.					
4	If I make a mistake in my speech, I am unable to re-focus.					
5	I am worried that my audience will think I am a bad speaker.					
6	I am focused on what I am saying during my speech					
7	I am confident when I give a speech.					
8	I feel satisfied after giving a speech.					
9	My hands shake when I give a speech.					
10	I feel sick before speaking in front of a group.					
11	I feel tense before giving a speech.					
12	I fidget before speaking.					
13	My heart pounds when I give a speech.					
14	I sweat during my speech.					
15	My voice trembles when I give a speech.					
16	I feel relaxed while giving a speech.					
17	I do not have problems making eye contact with my audience.					



APPENDIX B

Speaking Rubric

Criteria	4 - Exceptional	3 - Good	2 - Acceptable	1 - Poor	Student Score	
Non-verbal Skills					1	2
Eye Contact	Holds attention of the entire audience with the use of direct eye contact, seldom looking at notes or slides	Consistent use of direct eye contact with the audience, returns to notes often	Most of the speech read from notes with occasional eye contact	No eye contact with the audience, the entire report read from notes		
Body Language	Movements seem fluid and help the audience visualize	Made movements or gestures that enhance articulation	Very little movement or descriptive gestures	No movement or descriptive gestures		
Poise	Displays relaxed confident nature with no mistakes	Makes minor mistakes, but quickly recovers, displays little to no tension	Displays mild tension, has trouble recovering from mistakes	Tension and nervousness is obvious, has trouble recovering from mistakes		
Verbal Skills						
Enthusiasm	Demonstrates a strong positive feeling about	Occasionally shows positive feelings	Shows some negativity toward the topic	Shows absolutely no interest		

	the topic during the presentation	about the topic		in the topic presented		
Speaking Skills	Uses a clear voice and speaks at a good pace so audience members can hear the presentation. Does not read off slides. No filler words.	The presenter's voice is clear. The pace is a little slow or fast at times. Most audience members can hear the presentation.	The presenter's voice is low. The pace is much too rapid/slow. Audience members have difficulty hearing the presentation.	The presenter mumbles, talks very fast, and speaks too quietly for a majority of students to hear and understand.		
Content						
Subject Knowledge	An abundance of material clearly related to the research is presented. Points are clearly made and evidence is used to support claims.	Sufficient information with many good points made, uneven balance, and little consistency.	There is a great deal of information that is not clearly integrated or connected to the research.	The goal of research unclear, information included that does not support research claims in any way.		
Language	Language is precise, vivid, and appropriate	Language is appropriate but may not be vivid.	Language is not precise. Occasional	Language choices are ineffective or limited.		

	for the setting and context. No use of filler words.	Little use of filler words.	use of filler words.	Use of filler words (uhm, uh...) frequently.		
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APPENDIX C

Background and Instructions for Diaphragmatic Breathing

(Video Tutorial)

[Excerpt with minor changes from The Influence of Diaphragmatic Breathing to Reduce Situational Anxiety for Basic Course Students (Howe & Dwyer, 2007)]

Diaphragmatic breathing, also known as deep abdominal breathing or belly breathing has been used to reduce tension and anxiety of various kinds such as public speaking.

You can learn to control situational anxiety and increase your concentration through diaphragmatic breathing. In stressful situations, individuals tend to breathe rapidly and shallowly, leading to reductions in carbon dioxide levels in the bloodstream which contributes to feelings of anxiety. Diaphragmatic breathing can stop the reductions, clear your mind, relax your body, and maintain the body's biochemical balance.

Steps to follow for diaphragmatic breathing:

1. Stand up, feet shoulder-width apart, and briefly stretch (move hands, neck, arms).
Alternative: Relax in your seats, and rest your backs on the back of the chair.
2. Close your eyes and concentrate on your breathing.
3. Place one hand just under your ribcage, locating your abdomen. Place your other hand on your chest (this hand should barely move).
4. Inhale slowly and deeply through your nose for a slow count of four while counting to yourself (one one-thousand, two one-thousand, three one-thousand, four one-thousand). Your belly should move down and outward. It may help to picture your abdomen as a beach ball. As you draw air in, it expands. Your chest should barely move. (Note: most people shallow breathe and will feel their chest expand instead of their abdomen. Concentrate on breathing through your abdomen and not your chest.)
5. Pause slightly and smile for a slow count of four. Smiling releases endorphins (natural mood elevators) in your blood.
6. Now, exhale slowly and fully through your mouth, making a 'whoop' sound like the blowing wind, for a slow count of four counting to yourself again (one one-thousand, two one-thousand, three one-thousand, four one-thousand).

7. Relax and take a few normal breaths. Tell your body to go loose and limp. Make an effort to let all tension drain away from every part of your body.
8. Continue taking at least ten deep abdominal breaths with slow, full exhales in order to trigger relaxation while keeping your eyes closed.

The slow, controlled release of air from the lower lungs triggers the full relaxation response. If you do the exercise properly, the muscles in your neck and shoulders will release the tension immediately.





APPENDIX D

Sample Video Demonstration of Diaphragmatic Breathing Demonstrated by a
Licensed Physician

(Screenshot from the Actual Video)





มหาวิทยาลัยจุฬาลงกรณ์ • HUACHIEW • 華僑崇聖大學 • CHALERM PRAKIET UNIVERSITY



APPENDIX E

Ethics Form



เรียนรู้เพื่อรับใช้สังคม

เอกสารรับรอง

(Certificate of Exemption)

คณะกรรมการจริยธรรมการวิจัย

มหาวิทยาลัยหัวเฉียวเฉลิมพระเกียรติ

วันที่ 7 กันยายน 2565

ชื่อเรื่อง การจัดการเรียนรู้แบบการอภิปรายออนไลน์ที่มีผลต่อทักษะการอ่านภาษาอังกฤษของ
ผู้เรียนชาวไทยในระดับอุดมศึกษาที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ

ชื่อนักวิจัย/หัวหน้าโครงการ Dr. Chiara Ayn Joven Lamarca

คณะวิชา/หลักสูตร คณะศิลปศาสตร์

มหาวิทยาลัยหัวเฉียวเฉลิมพระเกียรติ

ขอรับรองว่า งานวิจัยดังกล่าวข้างต้นได้ผ่านการพิจารณาเห็นชอบโดยสอดคล้องกับ
ประกาศเฮอร์ซิงกิ จากคณะกรรมการจริยธรรมการวิจัย มหาวิทยาลัยหัวเฉียวเฉลิมพระเกียรติ

ลงนาม

(อาจารย์ ดร.วิรัตน์ ทองรอด)

ประธานคณะกรรมการจริยธรรมการวิจัย

มหาวิทยาลัยหัวเฉียวเฉลิมพระเกียรติ

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APPENDIX F

Researcher Profile

Researcher Profile

Education

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