

Public Speaking Anxiety in Mechanical Engineering Students

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ARTICLE INFO

Keywords:

anxiety;
public;
speaking;
engineering;

Article history:

Received 2023-03-02

Revised 2023-05-20

Accepted 2023-06-07

ABSTRACT

This study explains students' anxiety in public speaking at the second semester of the Mechanical Engineering Study Program. The purpose of this study was to describe the contributing factors that cause students to experience such conditions. The participants in this study consisted of 22 students. This study used descriptive quantitative. The instruments used in the study were questionnaires. The questionnaire was the FCLAS (Foreign Language Classroom Anxiety Scale). The data were analyzed using a Likert scale to determine the factors that cause students' anxiety in public speaking. The results show that the factors that cause student anxiety in public speaking are internal factors and external factors. It shows the mean score of the level of students' anxiety, where the percentage of the two factors, namely internal factors, is 51% and external factors are 49% of, the highest score of 100% points, and the total number of questions was 33 numbers. Most correspondents are in the anxious middle classification with a median total of 3 points in both factors.

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1. INTRODUCTION

Language is a means of communication and symbols used by humans to interact. Language and the way humans interact are different in every condition and region. According to Gilakjani (2017), language is used to say something and convey information. In this case, In order to communicate effectively, the speaker must simultaneously listen and speak. Due to the communication, speaking is an essential skill. Additionally, from basic school to university, English is taught. The addition of vocabulary and the preparation of speaking sentences are the lessons learned. Speaking is as a two-way process that includes the genuine expression of one's thoughts, ideas, or feelings (Torky, 2014). The idea is based on various aspects of speaking, such as speaking skills. Affective variables include speech, pronunciation, correctness, and fluency in negotiating the meaning or effect of the interaction.

Furthermore, speaking is the skill to deliver and express oral language, use it in the appropriate context and in a variety of subjects with other users of the same language, and also take the appropriate expression to use it in a variety of situations (Lindsay & Knight, 2008; Yaikhong & Usaha, 2012). In addition, speaking is a set of words spoken by one and understood by somebody else it refers to the act of delivering a message or a thought opinion (Woodrow, 2006). Therefore, speaking is delivered clearly to send the messages of the speakers to the hearers.

Anxiety is an emotional disturbance that is not good by chance and usually arises when you are the centre of attention in an activity. According to (Male, 2018) anxiety is the feeling of situation and apprehension specifically linked with the text, covering speaking, listening, and learning in a second language" is the definition of anxiety. In addition, anxiety is a response to a particular scenario. When they are in danger, they plan ahead. Anxiety is what makes thinking not go well. Therefore, students who experience anxiety disorders tend to have difficulty speaking and giving their opinions. Feelings are the root of everything.

Everyone experiences anxiety when speaking in front of large groups or particular individuals, particularly when doing so in a foreign language like English. According to (Tran, 2012), anxiety is "fear and fear that does not". Ordinary and extraordinary are frequently indicated by physiological symbol by doubts about the fact and threats posed by nature, as well as by self-doubt about one's ability to cope with it. Then, anxiety is a psychological state characterized by somatic, and emotional. These cognitive and behavioral feelings are feelings of fear and worry that do not pleasant (Basri, 2019). According to (Putra, 2018), anxiety is an integrated physiological, behavioral, and psychological response. Biological reactions such as a racing heart, muscle tension, sweating, nausea, dry mouth, or excessive sweating are the effects of anxiety. Therefore, anxiety can destroy concentration on one thing. Further, anxiety about language Foreigners can have a negative effect on public speaking for some students (Woodrow, 2006).

However, there are some previous studies that investigated anxiety. Cubukcu (2017) investigates that speaking is difficult to measure when the students feel fear and nervous. When speaking ability is evaluated, students can feel anxious. Sometimes student demand from themselves something unrealistic such as perfectionism and feel that anything less than a perfect test result is a failure (Male, 2018) also studies the anxiety. The finding shows that the anxiety is natural, but it can be reduced by practising with classmates or peers in learning process. Then, (Humaera, 2015) investigates that the student's anxiety is influenced by two things: internal and external factors: The internal factor, first Shyness is one of the sources of anxiety experienced by students. Second is self-confidence. The point case of students' confidence is their low skill in public speaking. Besides, (Cabe & Selatan, 2012) argue that many students feel that their English is not good and think that they do not speak English well. Then, (Januariza & Hendriani, 2016) investigate the anxiety that happens when the students fear mistakes; one reason students hesitate to speak English is the fear of making a mistake. In addition, they add the lack of motivation is also influenced the anxiety. Therefore, the self-confidence and motivation can help the students to prevent the fear and anxiety.

Moreover, Sinta (2022) argues that with limited vocabulary, without grammar very little can be communicated, and without vocabulary, can't anything. In addition, the external factor is the first grammatical error; a grammatical error is the mistake that violates the grammatical standard of speech and write one's handwriting look unsightly to the reader (Erlangga et al., 2019). However, according to Liu (2007;129) and (Putra, 2018), anxiety is caused a lack of preparation. It has emerged as one of the primary causes of students' anxiety and also includes "preparation" on their top list of ways to get over anxiety, so it's clear that students' anxiety during speaking class comes from a lack of preparation.

Based on the previous study, there is a little bit of discussed the factors influenced by high education. Meanwhile, Sundari et al. (2020) state that anxiety is influenced by the contexts used. It means that the speakers and the setting used make the different sense of anxiety. In this case, the high school and university have various anxiety factors. Therefore, investigating the anxiety factor is highly academically important to help the lecturers to solve and reduce the students' anxiety at the university.

2. METHODS

This research used a descriptive quantitative design. Data collection by triangulation, purposive and snowball data collection, inductive or qualitative data analysis, and research results that emphasize meaning rather than generalization are all examples of the descriptive qualitative method, which collects data in a natural setting with the goal of interpreting the ongoing problem (Vioreza et al., 2022). In this research, the population are 22 students in the second semester of the 2021/2022 academic year of the Mechanical Engineering Study Program. If it is known that the number of small populations, for example, 30 or less than 30, the entire population should be used as a sample, which is called the census technique (Fitria & Ariva, 2018) Because the population in the study is less than 30 then all the population is taken as a sample with the term saturated sample.

This research uses a questionnaire to collect the data. The type of the questions were closed-ended questions. The questionnaire is adopted from the final version of the FLCAS (Foreign Language Classroom Anxiety Scale) by (Horwitz et al., 1986)

Table 1. The Blueprint of Questionnaire

Factors	Indicators	Item Number	Total
The Factors Internal	• Shyness	• 1, 2, 3	20
	• Self-confidence	• 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	
	• Fear of mistake	• 15, 16, 17	
	• Motivation	• 18, 19, 20	
	• Grammatical error	• 21, 22	
The Factors External	• Limited vocabulary	• 23, 24, 25	13
	• Friends/classmate	• 26, 27, 28, 29	
	• Lack of preparation	• 30, 31, 32, 33	
		Total	33

(Horwitz, 1986)

The data collection procedure is still under research. In collecting data, researchers used questionnaires and interviews. For the 2021/22 academic year, this study will be carried out in the second semester of the Mechanical Engineering Study Program at the University of Pasir Pengaraian. The researcher began data collection by handing out a questionnaire to second-year Mechanical Engineering Study Program students at the University of Pasir Pengaraian. Second, the collected data were analyzed using the Likert scale. Third, the researcher interviewed the students. Fourth, the interview consisted of five questions to strengthen the data that has been taken from the questionnaire. Finally, the researcher analyzed the factors that cause anxiety.

In this research, the researcher uses the Foreign Language Classroom Anxiety Scale (FLCAS) questionnaire developed by (Horwitz et al., 1986). The scores for the data, which range from 20 to 100 points, are determined by hand. Student results are provided after each FLCAS (foreign language classroom anxiety scale) score. Based on the Scale, it categorized several levels of anxiety into one category, ranging from "very anxious," "anxious," and "very relaxed."

Table 2. FLCAS Anxiety Scala

Range	Level
4.1-5	Very Anxious
3.1-4	Anxious
2.1-3	Middle Anxious
1.1=2	Relaxed
>-1	Very Relaxed

Table 3. Likert Scale

Items	Score
Strongly Agree	5
Agree	4
Undecided	3
Disagree	2
Strongly Disagree	1

FLCAS was managed by researchers, and the Likert scales that were gathered from the data were analyzed by hand. The average score is used to calculate language anxiety to determine the percentage of anxiety. The following formula is used to determine the average value:

$$\bar{X} = \frac{\sum X}{N}$$

Where: \bar{X} = Median/average
 $\sum X$ = Total score of students
 N = Total number of students (Gay, 1981: 298)

While to analyze the percentage technique by using this formula:

$$P = \frac{f}{n} \times 100$$

Notation: P = Percentage
 F = Number of correct
 N = Number of samples

3. FINDINGS AND DISCUSSION

The researcher for the academic year 2021–2022, researchers carried out research in the second semester of the Mechanical Engineering Study Program. There were 22 students participated as respondents in this study. In this session, the researcher will talk about the results of the questionnaire. The purpose of this survey is to ascertain how anxious Mechanical Engineering students are about public speaking. The questionnaire is adopted from the final version of the FLCAS (Foreign Language Classroom Anxiety Scale) by Horwitz et al. (1986) FLCAS itself contains 33 a statement that aims to find out what causes students' anxiety in public speaking. The research engages students of the Mechanical Engineering Study Program at the University of Pasir Pengaraian.

3.1 Questionnaire Result

Table 4. The internal factors

Internal Factors	Average	Percentage	Classification
Shyness	3	65%	Middle Anxious
Self-confidence	3	59%	Middle Anxious
Fear of mistake	3	56%	Middle Anxious
Motivation	3	54%	Middle Anxious

The percentage of the internal factors is shown in the data above, which shows the mean score of students' anxiety levels., namely shyness is 65%, self-confidence is 59%, fear of mistakes is 56%, motivation is 54% of the highest score of 100% points. So, the researcher gave the conclusion that most correspondents are in the anxious middle classification with a median total of 3 points.

Table 5. The external factors

External Factors	Average	Percentage	Classification
Grammatical error	3	55%	Middle Anxious
Limited of vocabulary	3	58%	Middle Anxious
Friends/classmate	3	58%	Middle Anxious
Lack of preparation	3	56%	Middle Anxious

The average anxiety level of students is shown in the data above, along with the percentage of external factors., namely grammatical error is 55%, limited vocabulary is 58%, friends/classmates are 58%, lack of preparation is 56% of the highest score of 100% points. So, the researcher gave the conclusion that most correspondents are in the anxious middle classification with a median total of 3 points.

3.2 Discussion

As a result of the analysis of the data, the researcher got data from questionnaires and open-ended questionnaires. Researchers gave the questionnaire from the final version of the FLCAS (Foreign Language Classroom Anxiety Scale) by (Horwitz et al., 1986) FLCAS itself contains 33 a statement that aims to find out what causes students' anxiety in public speaking. This is to determine whether students' anxiety about public speaking is caused by internal or external factors.

3.2.1 Internal Factors

The result of this study found out several internal factor of anxiety such as shyness, self confidence, fear, and low motivation. Furthermore, shyness makes the students lose their idea when they deliver their speeches in front of the audience. In line with this, Putra (2018) states that the shyness is one of the most common phobias students have is the fear of speaking in front of people, which can cause them to lose their minds or forget what to say. The shyness is happened because they speak in front of a crowded place, they do not have not good at English and mispronouncing English vocabulary. Then, the anxiety is caused by the lack of self confidence. Self confidence has the important role in speaking. It is in line with Male (2018) who argues that students who perform well in language classes experience less anxiety. It is happened because they knew they did not have a good ability to speak English. It means that they do not want to learn because they believe that English is difficult.

Moreover, fear is also one factor in anxiety. In this case, the anxiety appears when the students fear presenting their speech. This statement is supported by Januariza & Hendriani (2016) who state that one of the primary reasons students are reluctant to speak English in the classroom is their fear of making a mistake. It is happened because students admit that they are afraid of mispronunciations of English vocabulary and afraid of wrong writings and pronunciations. In addition, the lack of motivation is also supporting the anxiety that happened in public speaking. Meanwhile, the motivation has the significance impact in speaking skill. Motivation is internal energy and students will increase their interest in their studies regardless of the motivation they receive (Ilyosovna, 2020; Nahak et al., 2020; Prachanant, 2012; Putra, 2018).

3.2.2 The External Factors

The external factors that influence the students' anxiety are grammatical error, limited vocabulary, friends and preparation. Furthermore, the gramatical error is one aspect of making the anxiety. This case is always happened in publi speaking. In line with this, (Yaikhong & Usaha, 2012)the grammatical error showed that the rotated loading factors had the expected meaning and that each factor could easily be understood. It means that one aspect of external factors that contribute to students' anxiety is grammatical errors. This case is happened because students confess that there are many rules in public speaking. It causes students to feel overwhelmed by the many rules that must be learned to speak English. Then, limited vocabulary is also caused anxiety in public speaking. Rayani et al., (2016)

agree with this idea. They agree that the limited vocabulary made language learning difficult. It will make them nervous and anxious when they deliver the speech in front of the audience.

In addition, the friends/classmate is also influence the students' speech. They feel so nervous in front of their classmate when public speaking. This idea is supported by Sundari et al. (2020). They point that their classmates make the students so nervous. It means that the anxiety is caused by the students' friend in the class. Besides, the preparation is also influencing the feeling of nervousness. In line with this, Pahargyan (2021) states that preparation is a major cause of students' anxiety. It means that the external factors that contribute to students' anxiety is a lack of preparation. It will make them being anxious to deliver the speech in front of the audience.

4. CONCLUSION

The data analysis findings indicate that students' anxiety about public speaking is influenced by internal and external factors. Internal factors come from the students themselves. The internal factors can be reduced by practicing in delivering speech. Public speaking is supposed to be the habit to reduce anxiety. Then, the external factors appear from the out side of the students. In this case, the main point in public speaking is holding the condition when deliver the speech. To solve this problem, the lecturers should take their hands to reduce the students' anxiety. Moreover, the students who do not come from English Department Program. They only get the limited time to study English both in coverstation and in class activities. Therefore, the anxiety is being the special case in different place and time.

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