

科技大學工科學生英語口語自信—以機械工程系為例

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摘要

私立科技大學工科學生的英語水平在台灣高等教育中是末段，儘管業界和學術界都希望大學畢業生能夠達到全民英檢中高級水平的要求，但私立理工大學能通過初級水平（相當於國中程度）的學生比例卻越來越低，少於 20%。一些文獻發現，英語作為外語（EFL）教師迫切需要增強學生的自信心，並且英語自信心與學業成績之間的相關性是肯定的。當學習者享受學習體驗時，可以預見英語能力長期的積極發展。本研究之工具包括：英語口語信心量表和後續訪談，用以評估目標群體對英語口語的信心和態度。根據文獻記錄，英語口語信心包括五個因素：1. 英語學習能力和態度，2. 對英語使用背景的信心，3. 母語背景下的個性因素，4. 對英語潛力的信心 5. 對英語能力的信心。本研究對象為一所私立科技大學的機械工程系學生，問卷發出總數為 411 件，其中 227 件可用。另外有十名問卷填寫者參與後續訪談，協助釐清實際學的習情況。數據顯示因子 1 和 2 平均值比因子 3、4 和 5 低一個級別。同時，英語的自信度比中文差。最後是因子 4，最高的人為 3.56，這是五個因子中唯一高於 3.5（6 點量表的中位數）的平均值。因此，目標群體對未來英語能力的信心優於目前的情況，並普遍認為自己英語不好。整體而言，參與者總體評價值多低於中位數，本研究認為應該擔心研究對象沒有自信和英語口語能力之狀況。從學習者角度，本文最後推薦提高英語口語信心的策略，包括學習態度和有效學習路徑的方法。

關鍵詞：自信心、口語英語、英語作為外語、學習路徑

Self-confidence in Spoken English Speaking for Engineering Students at the University of Science and Technology: A Case Study of the Department of Mechanical Engineering

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Abstract

The English proficiency of the engineering students at private universities of science and technology is at the bottom of higher education in Taiwan. Although the industry and academia expect university graduates to achieve an intermediate to advanced level of the General English Proficiency Test, the ratio of the students at private polytechnics universities who can pass the junior level (equivalent to the junior high school level) is less than 20%. Some literature found that there is an urgent need for English as a Foreign Language (EFL) teachers to increase students' self-confidence and that there is an affirmative correlation between English self-confidence and academic achievement. The instruments used in this study included a developed "Spoken English Confidence Scale" and a follow-up interview to evaluate the confidence and attitudes of the target group towards oral English. According to the literature, five factors were included: 1. English learning ability and attitude, 2. confidence in the context of English use, 3. personality factors in the context of native language, 4. confidence in English potential, and 5. confidence in English ability. A total of 411 questionnaires were sent to mechanical engineering

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students in a private university of science and technology, of which 227 were valid. In addition, ten respondents participated in a follow-up interview to help clarify the actual learning situation. The data showed that the mean of Factors 1 and 2 was one level lower than Factors 3, 4, and 5. Also, the confidence level of English was worse than that of Chinese. Finally, Factor 4, with the highest score of 3.56, was the only one of the five factors with a mean higher than 3.5 (the median on a 6-point scale). Therefore, the target group was found to have better confidence in their future English ability than their current situation and generally perceived themselves as not speaking English well. In general, the participants' overall ratings were mostly below the median. This study concluded that the lack of confidence and English oral proficiency of the research participants should be a concern. From the learner's perspective, this paper recommended strategies to improve confidence in spoken English, including learning attitudes and effective learning paths.

Keywords: Self-confidence, Spoken English, EFL, Learning Path

I. Introduction

The students majoring in engineering are generally weaker to learn oral English to communicate with foreigners freely and fluently for their future careers (Lu & Qiuping, 2020). Although the industry and academia hope that university graduates in Taiwan could meet the requirements of the high-intermediate level of the GEPT, the reality is that the students at the university of technology who can pass the elementary (junior high school level) are less than 20% (Hou, 2007). Meanwhile, the situation is so desperate that Electronics Engineering students in a public higher learning institution in Selangor, Malaysia always turned down the offers of scholarships to study overseas due to their lack of self-confidence communicating in the English language (Ibrahim & Shahabani, 2020). To help educators realize the confidence and attitude in English spoken of the engineering students and therefore sustain the higher education at private university of technology in Taiwan, here are the research questions.

1. What is the objects' situation in the speaking English confidence and capability?
2. What is the strategy to enhance the self-confidence in speaking English for the object students?

II. Literature review

Many literatures mentioned the importance to developing interpersonal skills for engineering students including better thinking skills (Gullur & Mathew, 2020), expressing themselves to others, personality development and improving academics (Renuka, 2020). The English spoken ability also has become more essential for a successful career in today's technology-infused world (Reddy, 2019; Renuka, 2020). Usually, effective communication by speaking generally generates a number of benefits for the speakers (Anuyahong, 2017). Meanwhile, communication skills are crucial for the interpersonal skills which can be enhanced on the process to improve the English-speaking skills (Kumar & Divya, 2021; Renuka, 2020).

As a result, a higher learning institution in Selangor, Malaysia (a HND program in Electronics Engineering) used public speaking to promote the confidence in learning English as a second language (Ibrahim & Shahabani, 2020). In addition, modern engineering education was encouraged to emphasize the sense of humanity by various means to improve the English-speaking skills, like Gardner's theory of multiple intelligences implemented in India (Dastidar & Choudhury, 2018). The theory proposed each human being is capable of seven different ways of information processing which should be explored to increase the sense of humanity of the future engineers.

1. Problems

Even though the English communication skills are considered to be crucial, the problem of lack of communication skills among college students has been complained a lot, for example Dr. Ketan Kotecha, former Director of Institute of Technology, Nirma University, Ahmedabad, India (Rana & Gida, 2017). Moreover, the students majoring in engineering are generally weaker to learn oral English to communicate with foreigners freely and fluently for the future career (Lu & Qiuping, 2020). In addition, the situation is so desperate that Electronics Engineering students in a public higher learning institution in Selangor, Malaysia always turned down the offers of the scholarships to study overseas due to their lack of self-confidence communicating in the English language (Ibrahim & Shahabani, 2020). The further problems of spoken English as the second language for the college students are listed below.

The speech intelligibility of Thai EFL engineering students was assessed by means of read aloud, a set of vocabulary items retrieved from their English textbook and a standard reading passage used in speech-language pathology. The overall comprehensibility of the students' speech was determined by the incidence of unintelligible phonetic features. This study concluded that unintelligible pronunciation decreased these engineering students' self-confidence in English speaking (Singhanuwananon & Chatpunnarangsee, 2018).

A descriptive qualitative research design with semi-structured interviews on five students of non-English majored students at the University of Islam Malang in Indonesia was investigated and found many problems regarding psychological difficulties such as lacking confidence and motivation, being nervous, the mind goes blank, being out of topic, being confused as well unprepared. Moreover, the researcher found that both linguistic and psychological difficulties have an impact to the fluency of English speaking (Yusa, 2021).

71 sophomore students and two classes of university students majoring in Telecommunication Engineering and Electrical Engineering in Indonesia were surveyed to realize how attitude, affective strategies effect speaking performance. The main causes of the students' English-speaking problems were management in teaching and learning English (teachers' techniques, classroom activities, extra curriculum activities, and the course syllabus), exposure to English, and personality. These factors were identified at a moderate level (Wijirahayu & Dorand, 2018).

223 engineering and commerce students at University Sains in Malaysia were surveyed and then interview was followed with transcription and coding to figure out the English spoken problem. Accordingly, the main cause of oral presentation difficulties faced by the students was found to be lack of practice. In addition, the engineering students were less prepared than the commerce students when dealing with oral presentations probably (Whai & Lai Mei, 2015).

A case study of Mechanical Engineering students by interviews and students' speaking grades of the classroom presentations showed four challenges in learning English speaking, such as lack of vocabulary, nervousness, unsupportive environment, and lack of grammar knowledge (Ratnasari, 2020).

The psychological difficulties were identified by the investigation of Civil Engineering students at Vellore Institute of Technology in India, such as inferiority complex, lack of self-confidence, shyness, fear of making mistakes (Sheeba & Karthikeyan, 2018).

The Engineering students at Gujarat Technological University in India suffered from the conditions like anxiety, nervousness, fear or apprehension which may prevent the EFL/ESL learners from achieving the desired goal. Their language anxiety may result from the language learning environment in and out of classroom in the wider social context (Rana & Gida, 2017).

A descriptive study of 27 Electrical Engineering Department students of Polytechnic in Indonesia was conducted to investigate the problems in speaking English in group presentation. The analyzed data was classified

into linguistics and psycholinguistic problems and presenting them in the term of percentage. The study revealed that the dominant linguistic problem of the students in speaking English was their poor pronunciation. It was 16 students (59, 26%) among 27 students who were evidenced to have this problem. Meanwhile the major psycholinguistic problem was the students' anxiety in using the language which was presented by 15 students (55, 56%) (Ariani, 2020).

The following issues would make the students at University Technology in Malaysia nervous about English speaking: to speak without preparation, in front of other students. The performance anxiety results from the risk to reveal themselves by speaking the second language in the presence of other people. The other issue to make the students overwhelmed was the rules that they must learn to speak in English. They are less motivated to learn the grammatical structures or linguistic features in class (Abdullah & Abdul Rahman, 2010).

132 Korean college students were assessed the levels of anxiety, self-confidence, and oral performances. Communication, criticism, and examination were discovered to be the three major causes to anxiety. The communication confidence and self-image of language potential were concluded to be closely correlated with oral performance. As a result, the instructors should try to remove a significant amount of anxiety in students and build confidence in them as they communicate more often in English (Park & Lee, 2005).

338 Japanese EFL, English as a Foreign Language, learners were surveyed and indicated that the participants were moderately to highly anxious about speaking English both in and out of class. It also recommended the importance for the educators to support their students at various stages of learning to minimize the level of foreign language anxiety when speaking English, while maximizing that of confidence (Masutani, 2021).

158 Humanities and Engineering students at Ferdowsi University in Iran were investigated about L2 (second language) willingness to communicate, L2WTC. Two paths (motivation and openness-to-experience path to L2 self-confidence) were not significant, while attitudes toward international community and L2 self-confidence were two predictors of L2WTC in the Iranian context. L2 self-confidence was the most significant predictor of L2WTC. In addition, as anxiety decreases and perceived communicative competence increases, willingness to communicate increases too. So, teachers should provide an anxiety free environment for the students in order for them to communicate effectively (Ghonsooly et al., 2012).

For a 'global engineer' with the language skills, 162 engineering students at Mapua University in Philippines were explored about the English-speaking anxiety. A self-developed scale quantitative and speaking performance scores revealed a significant negative relationship between speaking anxiety and speaking task performance.

In addition, semi-structured interviews of qualitative data among nine purposefully selected students revealed that both peers and teachers were common sources of speaking anxiety and in a variety of ways (Quinto & Macayan, 2019).

60 first-year undergraduate students at Thai-Nichi Institute of Technology in Thailand were investigated by three instruments, including a speech evaluation form, an English speech test, and an anxiety questionnaire. The research found that the first-year undergraduate students had anxiety in speaking English at a moderate level when the overall English speech ability was high. Also, different contexts, ethical and educational backgrounds have an impact on learners' level of anxiety. For example, practicing in a classroom may be comfortable to one person but stressful to other learners from different cultural backgrounds (Anuyahong, 2017).

To sum up, anxiety is an issue when discussing the confidence and ability of English speaking for L2. Majority found the higher the anxiety, the worse the confidence and performance in the English oral presentation. As a result, a friendly and cooperative environment in the classroom to encourage students to speak the targeted language was highly recommended (Aziz & Kashinathan, 2021; Ghonsooly et al., 2012; Masutani, 2021; Park & Lee, 2005; Quinto & Macayan, 2019; Ratnasari, 2020). Furthermore, authentic activities and materials would

help develop self-confidence and motivation to speak confidently (Aziz & Kashinathan, 2021). On the other hand, some studies claimed the relation was not significant and emphasized all of themes and sub-themes appeared to be intricately interrelated (Abrar, 2018). Different contexts, ethical and educational backgrounds could be also crucial to the participants in the confidence to talk in English in and outside of the classroom (Anuyahong, 2017; Rana & Gida, 2017; Wijirahayu & Dorand, 2018). Other problems were also investigated like attitudes (Ghonsooly et al., 2012).

2. Learning attitude

When psychological reasons were accused of the problems for L2 speakers, some articles complained the learning attitude of the college students and drew a lot attention and great agreement, like “Sleeping college students, if you won't lose your job, that's really unbearable!” (Mingke, 2019). Students come to the class late, do not pay much attention in the class lesson and not even try to response teacher's questions (Songsiri, 2012). In addition, for most of the learners, learning English is a duty, rather love and taste the language with full interest and concentration (Sheeba & Karthikeyan, 2018). To realize the situations of the learning attitude toward English speaking of L2 students, the literature review was followed next.

949 English majored students at Thai university were surveyed the communication strategy and attitude towards speaking English. The participants were first divided into positive attitude and negative attitude towards speaking English, according to the students' responses to the speaking English questionnaire. Among the total 40 communication strategies, 13 strategies were used by the positive attitude which is significantly higher overall than those students with negative attitude (Toomnan & Intarapraser, 2015).

Next, EFL is one of the challenges especially for the students majoring in Telecommunication Engineering. 154 first-year and second-year engineering students at Thai-Nichi Institute of Technology in Thailand conducted the research questionnaire. Then, motivational and attitude factors were identified at a low level of problem. On the other hand, management in teaching and learning English, exposure to English, and personality were found to be the main causes of the students' English-speaking problems (Jindathai, 2015).

However, (Wijirahayu & Dorand, 2018) concluded that attitude is one of important factors that may influence the progress of the speaking performance. The study found that the students concern most was to participate outside classroom activities; therefore, good teaching strategies could be an informal acquisition like arranging an interview trip with foreigners at popular a tourist attraction such as a floating market, etc., and increase the exposure to English in a real-life situation. To improve speaking performance, the study concluded an effective strategy function accompanied by orientation to cope with the emotional state such as anxiety reduction and self-encouragement. Meanwhile, teaching and learning in a certain classroom, the people who deal with it, and individual differences would also determine high or low of affective strategies (Wijirahayu & Dorand, 2018).

The motivation (instrumental, integrative, and personal) and attitude towards learning English were studied for Petroleum Engineering Undergraduates in Yemen. The results showed that their attitude valued the function effectively at both their academic and occupational settings most, second on personal reasons, and least on cultural or integrative reasons. To be equipped with a good level in English prior to entering higher education, the petroleum engineering students wished to start English as a medium of instruction as early as the first grade in the Yemeni schools (Al-Tamimi & Shuib, 2009).

Three positive influences were indicated on the L2 self-confidence in speaking English for the undergraduate Engineering students in Indonesia, including the determination to improve current L2 abilities, situation of the out-of-class autonomous language learning, and risk-taking attitude (Araminta, 2018).

In summary, the learning attitude toward English speaking is valued (Ghonsooly et al., 2012; Wijirahayu & Dorand, 2018) (Al-Tamimi & Shuib, 2009) (Toomnan & Intarapraser, 2015). At least, the improper classroom

attitude has caused a social alert in Asia (Mingke, 2019) (Songsiri, 2012). Meanwhile, some studies showed the effects of the positive learning attitude. For example, the English-major students with positive attitude apply more communication strategies (Toomnan & Intarapraser, 2015). Engineering students in Indonesia showed some positive effect of students' attitudes and affective strategy on students' speaking performance simultaneously is significant (Wijirahayu & Dorand, 2018). On the other hand, some literature considered the attitude could be just a low level of problem for the undergraduate engineering students including Thai-Nichi Institute of Technology in Thailand (Jindathai, 2015). The diverse outcomes could result from the teaching and learning in a certain classroom, the people who deal with it, and individual differences (Wijirahayu & Dorand, 2018). Other kind of learners' attitude toward the significancy of English was mentioned by Petroleum Engineering Undergraduates in Yemen (Al-Tamimi & Shuib, 2009). They valued the function effectively at both their academic and occupational settings so important that English as a medium of instruction should start as early as the first grade in the elementary schools, to equip the college students with a good level in English communication. Meanwhile, the undergraduate Engineering students in Indonesia recommended three positive attitudes significant for the L2 self-confidence in speaking English, including the determination to improve current L2 abilities, situation of the out-of-class autonomous language learning, and risk-taking attitude (Araminta, 2018).

3. Teaching strategy

To enhance the oral confidence and skills of the Engineering students to speak English as the second language, different teaching strategies were investigated, including Cognitive Load Theory (Chang & Yan, 2017), literature circles (Kaowiwattanakul, 2020), technological tools (Kumar & Divya, 2021), role play (Lenka, 2014), Meta-strategy (Pipattarasakul & Singhasiri, 2018), developing a prototype speaking game (Singh et al., 2019), awareness-raising discussion (Songsiri, 2012), computer-based learning (Thayniath & Khan, 2019), and CDIO concept (Wu et al., 2012). On top of those strategies, learning by doing or task-based teaching were applied by the following four studies.

The teaching strategy of OCT, oral communicative tasks, is categorized as initial tasks, core tasks and supporting tasks. Initial tasks are to prepare the learners and elicit their interest in the OCT, like listing 10 activities of the given professional, listing five to-do's, mentioning associated ideas on a topic, and situation-based responses. The next core tasks applied in the research were Long-answer interview, comparing task, story completion, roleplay, and group discussion. Roleplay and situation-based responses resemble real life situations. The final supporting task, 'short answer sessions', was used to prepare the students to respond comprehensibly in English. Meanwhile, self-introduction was used as a pre-test to assess and mark the entry level of the control and the experimental group, while an Impromptu speech, "The best gift I have ever received" was assigned as the post-test. The study supports the task-based learning essential in the engineering curriculum. It would promote situation-based activities that provide opportunities for the learners to speak English and prepare themselves for similar kinds of exposure in their future career (Shantha & Mekala, 2018).

Three types of task-based speaking activities, including problem-solving, information-gap, and sharing personal experience or feelings, were applied to the Electrical Engineering students at Universiti Teknologi Malaysia. A follow-up questionnaire survey demonstrated that the task-based speaking activities improve the communication in English, as it offered the opportunities to practice the language in English classes (Awang & Pendidikan, 2011).

Agricultural Machinery Engineering Students at Rajamangala University of Technology in Isan were investigated their English-speaking ability. Six-week lesson plans of a crop production subject of task-based learning (TBL) concepts (approximately 2.30 hour/lesson plan) was applied and the effects were measured. It shows the English-speaking ability was significantly developed ($p < .05$) after the task-based learning approach.

Meanwhile, the students showed positive opinion towards the incorporation of TBL in developing their English speaking ability (Chiraporn & Jogthong, 2013).

TBLT (Task-based Language Teaching) method including extempore, picture description, role play and group discussion was applied into engineering freshman in the state of Andhra Pradesh of India. A four-cycle lesson plans were designed as a part of curriculum and eventually led to improved outcomes in student performance. Overall, the results highlight a significant growth in the speaking skills among the learners (Howji et al., 2021).

One thing was noticed that these four studies applying task-based approach which are all the university of technology. It is reasonable because it does fit the characteristics of their students.

4. Speaking confidence

Research shows that when students actively participate in the classroom, their academic performance seems to be higher than that of passive students in the classroom. Therefore, encouraging students to speak in language classes is a problem faced by most language teachers. Nazarova and Umurova (Nazarova & Umurova, 2016) proposed that activities that can be used to cultivate self-confidence in English classrooms are the best way to learn to speak English fluently by regularly communicating with native English speakers on topics of different levels. The materials could be dialogues, monologues, and questions with the answers including important content, lists of difficult word meanings and phrases/sentences used, as well as comprehensive vocabulary for all daily topics.

Japanese scholars conducted questionnaire survey with 62 freshmen students and 8 in-depth focus groups to explore what conditions would affect students' confidence in speaking English? And how to help? The results of the questionnaire showed a correlation between the willingness to express in the first language and the confidence in the second language. A student's level of proficiency in L2 may also be related to the comfort of talking with other L2 learners. Finally, regardless of proficiency, students seem to be more confident in pairs and small groups than in the whole class. The results of focus group research show that teacher behaviour plays an important role in students' confidence in using L2 in the classroom. In addition, group discussions and familiar topics for the students could enhance comfort (Osboe et al., 2007).

Montha Songsiri's (Songsiri, 2007) thesis stated: One of the changes that Thai education needs is the improvement of language teaching, especially oral teaching. In this study, student-centered techniques of six activities were used as tools to motivate students to speak, including self-introduction, an English movie, a popular song, my favourite story, a foreigner interview, and coffee-break discussion. The second cycle further develops materials, activities, teaching skills, and the role of teachers after the reflection of the first cycle. The results of the study found that teaching strategies, using real materials, and presenting activities in a non-threatening manner can affect students' confidence in speaking English. The student-centered methods used in the research, including pair and group work, cooperative learning, providing practice opportunities, rehearsal time, and promoting a positive attitude towards language learning, all help to improve the outcomes. Other factors include general interactive methods of teaching and teacher roles, use of communication strategies, promotion of positive attitudes and positive atmosphere. Finally, the action research process itself helps students and teachers reflect on their successes and failures during the teaching and learning.

Wu, Yen et al. (Wu et al., 2011) mentioned that Taiwan's EFL teachers often use outdated lecture memory methods, which leads to low students' motivation, confidence and ability. The study used investigative methods, exploratory factor analysis, and structural equation modelling to examine which learning elements through video conferencing most beneficially affect motivation, confidence, and ability. The research found that the enjoyment of the learning experience can best predict long-term changes in ability. The data also shows that even a small

amount of real English interaction allows students to use their skills more easily, have more confidence in what they have learned, and are more motivated to establish global and cross-cultural connections. Therefore, EFL teachers should strive to use student-centered active learning and allow students to interact with native speakers, including through remote technology.

Overall, the English proficiency of the engineering students in the college of technology is at the bottom of the higher education in Taiwan. Although the industry and academia hope that university graduates could meet the requirements of the intermediate and advanced levels, the reality is that the students in the technical and vocational system who can pass the junior level are only less than 20%. In addition, EFL teachers urgently need to enhance students' confidence, and the correlation between this and academic performance is proved positively. When learners enjoy the learning experience, their long-term positive development of their abilities can be predicted. Even a small amount of real English interaction can also enable students to use skills, have more confidence in what they have learned, and have the motivation to establish cross-cultural connections. Based on the literature records, it is found that the relevant factors of English confidence are: English learning ability and attitude, personality factors in the context of the native language, confidence in the context of English use (in the classroom), confidence in English potential, and confidence in English ability. Accordingly, this project established a questionnaire and a follow-up interview for the students of the Mechanical Engineering department to explore the English-speaking confidence and ability which will clarify the situations in the first line and assist the education system to help the learners.

III. Method

1. Participants

This research consists of two stages of the investigation: a questionnaire and a follow-up interview for the students of the Mechanical Engineering department at vocational university in Taiwan. The first stage of the research is to investigate the experience and situation of English confidence for Mechanical Engineering students in spoken English. For the subjects, English is their second language. The ratio of male to female students is about 10:1, and their ages are between 18 and 21 years old. The study was conducted in two cycles: questionnaire and interview. An electronic questionnaire was issued to 7 courses between grades one and four with the permission of the course instructors. The total issued number of the cases was 411, collected 231 and used 227 of them.

The second-stage investigation of the interview with ten students was conducted to elicit a more robust understanding of the actual learning situation. The participants include 9 males and 1 female. There are 2 freshmen, 1 sophomore, 2 junior, and 5 senior students. Based on the English score in the University entrance exam, the English ability was divided into three levels by the school. And 5 out of the 10 interviewees were on the top 30%, 4 were in the middle, and 1 was on the bottom 30%.

2. Research tools

A tool of the "Spoken English Confidence Scale" was used in the first stage to investigate the self-evaluation of the subjects' confidence and attitude in English spoken in the real world. According to the literature review, there are five factors related to English confidence, including F1. English learning ability/attitude, F2. confidence in the context of English use (classroom), F3. personality factors in the context of the native language, F4. confidence in English potential, and F5. confidence in English ability. The questions of the five factors were created based on the references (Osboe et al., 2007; Park & Lee, 2005; Songsiri, 2007). Meanwhile, the reliabilities of Cronbach's Alpha of the 227 cases in the five factors were calculated by SPSS statistics software. Their Cronbach's Alpha was between .788 and .948. As a result, the reliability of Cronbach's alpha, above .7, overall reached acceptable to excellent.

After the basic analysis of the questionnaire was done, some questions for the interview were proposed based on pieces of literature and the answered questionnaire's results. The interview data were collected from ten volunteer participants. One researcher conducted the interview, while the notes were systematically recorded. An audio recording was also made and used to complete the recording notes afterward. The interview discussions lasted approximately 20-40 minutes individually. The researcher facilitated the discussion with each participant and began with a set of questions about student confidence in different English spoken situations and their English spoken experience in college. Afterwards, the interview results were numbered systematically. The numbering method is the following. The first number identified the interviewees. The second number is the serial number of the questions. The third number is only available when the interviewees offered multiple opinions.

IV. Research results and discussion

1. Questionnaire

The questions of the five factors are listed in Table 1. The statistics results show the lowest mean among the five factors is the F1, 2.60, while the highest is the F4, 3.56 with also highest standard deviation, 1.30.

Table 1

Descriptive statistics of all questions in all items of the five factors (N=227)

Construction	Item	Mean	SD	Factor Mean (SD)
F1. English learning ability and attitude	1.1. Ability to speak English	2.55	.98	2.60* (0.94)
	1.2. Knowledge about speaking English	2.54	.99	
	1.3. Confidence in speaking English	2.48	1.06	
	1.4. Enjoyment in speaking English	2.82	1.18	
	1.5. Anxiety in speaking English	3.09	1.36	
F2. confidence in the context of English use (classroom)	2.1 The teacher asks you a question in front of the entire class.	2.60	1.14	2.96 (1.06)
	2.2 The teacher asks you to find/choose a partner.	3.24	1.29	
	2.3 The teacher asks you to speak with a partner.	3.26	1.28	
	2.4 The teacher asks you to have a small group discussion.	3.27	1.34	
	2.5 You have a question to ask in front of the entire class.	2.42	1.13	
F3. personality in the context of the native language	3.1 If 5 friends and I are looking for a restaurant in Taiwan, I am usually the one who proactively suggests.	3.52	1.30	3.38 (1.11)
	3.2 If a group of friends is going to watch a movie, I am usually the one who proactively suggests which movie to watch.	3.52	1.29	
	3.3 If I travel with friends, I usually take the initiative to plan an itinerary.	3.44	1.31	
	3.4 In general Chinese classes, if the teacher asks the class in Chinese, I will take the initiative to raise my hand or answer.	3.06	1.28	
F4. confidence in English potential	4.1 I think that I will get a great TOEIC score someday.	3.54	1.36	3.56 (1.30)
	4.2 I think that I will speak perfect English someday.	3.55	1.37	
	4.3 I think that I will get an A or A+ in the English class.	3.60	1.38	
F5. confidence in English ability	5.1 I can learn to speak English.	3.83	1.24	3.35 (.99)
	5.2 I am a good English speaker now.	2.55	1.11	
	5.3 I can learn English well.	3.66	1.15	

*The mean value of F1 excludes item 1.5.

Based on the performance of a six-point scale, all factors reached low-to-medium and moderate level. Overall, the data of Table 1 proves that students evaluated themselves lowest English-speaking ability or attitude, F1, with the mean of 2.60; meanwhile, their comfortable level of different English spoken situations in the classroom, F2, was 2.96, also below moderate. In addition, in comparison to the anxious levels of moderate and moderate-to-highly in Thailand (Anuyahong, 2017) and Japan (Masutani, 2021), respectively, our participants showed the value of 3.09, moderate level, in question 1.5. It demonstrates the same or worse anxious level, in comparison with Thailand and Japan, respectively.

Next, F3 (personality in L1) was overall more active and one level better than F2(confidence of English use). It shows the participants were more confident in the context of native language; however, the mean of F3 was 3.38, in moderate performance still. On the other hand, the participants had the greatest mean in F4 of the potential to succeed in the future, 3.56, which is noticeably the only mean above 3.5, the median of the 6-point scale. Finally, their confidence in the present English ability, F5, is a lower value of the mean, 3.35. According to the paired T-test of F4 and F5 in Table 2, a significantly higher mean of F4. It implies that the subjects were confident that their English ability in the future would have a chance better than the current situations. Nevertheless, it should be worried that the overall values are quite low. And it seems common in Asia, for example, even though the Thai students with the speaking ability of high level (Anuyahong, 2017), and their students are not capable of English speaking.

Table 2

The statistical results of the paired T-test (n = 227)

	Mean	SD	95% Confidence Interval of the Difference		t	Sig. (2-Tailed)
			Lower	Upper		
F3 – F2	.42	1.18	.269	.58	5.41	.00 ***
F5 - F4	-.22	.80	.053	-.32	-.11	.00 ***
Item 3.4 - Item 2.5	.63	1.36	.456	.81	7.02	.00 ***

*** p < .001.

(1) Correlation

The correlations among the five factors are listed in Table 3. They are all significant at the 0.01 level (two-tailed). The pair of high correlations between F1 and F5 shows that the participants of higher English learning ability and attitude are also more confident in their English ability. The other pair of F4 and F5 demonstrate the high-level correlation of the learners' confidence between future English potential and present spoken ability.

Table 3

The correlations among the five factors, N=227

		F1	F2	F3	F4	F5
F1	Pearson Coefficient	1	.563**	.309**	.551**	.674**
	Sig. (two tails)		.00	.00	.00	.00
F2	Pearson Coefficient	.563**	1	.411**	.425**	.496**
	Sig. (two tails)	.00		.00	.00	.00
F3	Pearson Coefficient	.309**	.411**	1	.401**	.451**
	Sig. (two tails)	.00	.00		.00	.00
F4	Pearson Coefficient	.551**	.425**	.401**	1	.788**
	Sig. (two tails)	.00	.00	.00		.00
F5	Pearson Coefficient	.674**	.496**	.451**	.788**	1
	Sig. (two tails)	.00	.00	.00	.00	

** The correlation is significant at the .01 level (two-tailed)

Table 4 shows the correlations among the five items in F1. Except for the last question 1.5. Anxiety in speaking English, the other four items are statistically significantly correlated. In addition, all the six Pearson coefficients are between .67 and .85. It shows the participants evaluated their ability, knowledge, confidence, and enjoyment in English speaking are highly positively correlated statistically. However, the correlation of the final item, anxiety in speaking English does not reach a negative statistical correlation as the previous research demonstrated (Park & Lee, 2005); through it does represent a much higher mean, 3.09, among the five items. Participants evaluated themselves in much higher agreement in anxiety than the other four items relatively.

Table 4

The correlations among the items in F1, English ability/attitude

		1.1.	1.2.	1.3.	1.4.	1.5.
1.1	Pearson Coefficient	1	.851**	.762**	.674**	.028
	Sig. (two tails)		.00	.00	.00	.670
1.2	Pearson Coefficient	.851**	1	.752**	.674**	.065
	Sig. (two tails)	.00		.00	.00	.330
1.3	Pearson Coefficient	.762**	.752**	1	.712**	.090
	Sig. (two tails)	.00	.00		.00	.179
1.4	Pearson Coefficient	.674**	.674**	.712**	1	.157*
	Sig. (two tails)	.00	.00	.00		.018
1.5	Pearson Coefficient	.028	.065	.090	.157*	1
	Sig. (two tails)	.670	.330	.179	.018	

** The correlation is significant at the .01 level (two-tailed)

Table 5 shows the correlations among the five items in F2. The five items are all correlated statistically. It shows the participants evaluated their confidence in the context of finding/choosing a partner, speaking with a partner and small group discussion are extremely highly correlated to one another positively. On the other hand, the situations of either being asked or asking a question in front of the entire class are highly correlated. Meanwhile, the means of 2.1 and 2.5, 2.60 and 2.42, which are lower than those of 2.2, 2.3, and 2.4, which are 3.24, 3.26, and 3.27, respectively. This result demonstrated that the participants are more confident when working privately in a small group than they present themselves in an English class. Meanwhile, it was also proved by the previous studies (Osboe et al., 2007; Songsiri, 2007).

Table 5

The correlations among the items in F2, the confidence levels of different course circumstances in English

		2.1	2.2	2.3.	2.4	2.5
2.1	Pearson Coefficient	1	.55**	.56**	.57**	.71**
	Sig. (two tails)		.00	.00	.00	.00
2.2	Pearson Coefficient	.55**	1	.81**	.81**	.58**
	Sig. (two tails)	.00		.00	.00	.00
2.3	Pearson Coefficient	.58**	.81**	1	.86**	.56**
	Sig. (two tails)	.00	.00		.00	.00
2.4	Pearson Coefficient	.57**	.81**	.86**	1	.57**
	Sig. (two tails)	.00	.00	.00		.00
2.5	Pearson Coefficient	.71**	.58**	.56**	.57**	1
	Sig. (two tails)	.00	.00	.00	.00	

** The correlation is significant at the .01 level (two-tailed)

Table 6 is the correlation of the personality factors in the context of the native language, Chinese. The four items are all significantly correlated, while the first three items are highly correlated, and item 3.4 is in moderate performance to the other three items. Meanwhile, the same result can be demonstrated by Table 1 that item 3.1, 3.2 and 3.3 with the means of 3.52, 3.52 and 3.44, respectively, while item 3.4 with a smaller mean of 3.06. These results suggest that the participants are more confident in their private life to interact with friends than asking or responding in the class publicly in the context of the native language. However, the confidence value, 3.44, is still much better than the mean value of F2 in the context of English speaking, 2.96. Furthermore, F3 is significantly higher than F2 based on the paired T-test shown in Table 2. It indicates the Chinese scenario is certainly more comfortable than the English classroom. In addition, Table 2 also shows that item 3.4 is better than 2.5. It again proves that L1 mode is better than English scenario when the target students were responding in a class. Conclusively, the overall results demonstrated that the participants are more confident in private and L1 scenario.

Table 6

The correlations among the items in F3, the personality in L1 situations

		3.1	3.2	3.3.	3.4
3.1	Pearson Coefficient	1	.783**	.742**	.589**
	Sig. (two tails)		.00	.00	.00
3.2	Pearson Coefficient	.783**	1	.737**	.490**
	Sig. (two tails)	.00		.00	.00
3.3	Pearson Coefficient	.742**	.737**	1	.555**
	Sig. (two tails)	.00	.00		.00
3.4	Pearson Coefficient	.589**	.490**	.555**	1
	Sig. (two tails)	.00	.00	.00	

** The correlation is significant at the .01 level (two-tailed)

The correlations among the items of F4 and F5 are listed in Table 7. Again, all the correlations among the 6 items all reached a significant level at the 0.01 level. Furthermore, when 5 items mutually achieve extremely high and high, item 5.2, I am a good English speaker now, only in the moderate level of correlation to the other 5 items.

Table 7

The correlations among the items of the English confidence levels in potential, (F4) and ability (F5)

		4.1	4.2	4.3	5.1	5.2	5.3
4.1	Pearson Coefficient	1	.87**	.85**	.66**	.54**	.73**
	Sig. (two tails)		.00	.00	.00	.00	.00
4.2	Pearson Coefficient	.87**	1	.86**	.67**	.53**	.70**
	Sig. (two tails)	.00		.00	.00	.00	.00
4.3	Pearson Coefficient	.85**	.86**	1	.61**	.58**	.72**
	Sig. (two tails)	.00	.00		.00	.00	.00
5.1	Pearson Coefficient	.66**	.67**	.61**	1	.45**	.72**
	Sig. (two tails)	.00	.00	.00		.00	.00
5.2	Pearson Coefficient	.54**	.53**	.56**	.45**	1	.57**
	Sig. (two tails)	.00	.00	.00	.00		.00
5.3	Pearson Coefficient	.73**	.70**	.72**	.72**	.57**	1
	Sig. (two tails)	.00	.00	.00	.00	.00	

** The correlation is significant at the .01 level (two-tailed)

Meanwhile, the means of items 4.1, 4.2, 4.3, 5.1, and 5.3 are 3.54, 3.55, 3.60, 3.83, and 3.66, respectively, while the mean of item 5.2 is only 2.55, which is one level lower than the other 5 items. It proves that the participants evaluated their confidence in English potential and ability one level higher than English ability, F1; after all, they consider themselves poor English speakers.

To sum up the findings for the first research question, first of all the five constructions are all correlated to one another. It shows that the factors of ability, confidence, potential and personality in L1 are high related for the participants. Secondly, the most averages are below the moderate and lowest on the ability, F1. In addition, the spoken confidence in English, F2, is worse than the context in L1, F3. It means that the participants are not confident on communication and the situation is worse in English. Fortunately, the objects are still confident in the future English potential, which is higher than the other four factors and statistically better than the present ability, F5, significantly.

2. Interview

Based on the statements of the ten interviewees, four topics will be covered in the following section. First, the overall comments of their own evaluation whether spoken English had improved since they studied in the university. Their most successful experience of speaking English was analyzed next and then the worst experience to damage their confidence. Suggestions from the learners were made finally.

(1) English spoken confidence improvement

Three out of the ten interviewees reported that their English-speaking confidence had not changed after they came to the college. For those three negative responses, two interviewees were freshmen and therefore were not confident whether their spoken English had changed within four months. Meanwhile, the other interviewee reported less confidence after he started learning in the university; because he had been studied abroad for one year and it became hard to make progress after coming back without English environment.

On the other hand, the other seven interviewees reported more confidence in spoken English since they had studied at the University. For those positive responses, one had been studied English in cram school (#8); three interviewees (#2, 3, 6) thanked to the engagement of some English activities, as preparation for special English class activities; four responses (#3, 4, 5, 9) were regarded as self-learning, like making friends with foreigners, church activities, watching videos or movies. One thing noticeable is that no one promoted the effects from the typical school English courses, and this will be covered next.

(2) Experience to boost the English spoken confidence

Their experience to boost the English spoken confidence could be classified into two categories: self-learning and school learning, as shown in Table 8.

Table 8 shows that there are three items to boost English spoken confidence by self-learning: 1. watching videos or movies, 2. making friends with foreigners, and 3. going to cram school. The second one, making friends with foreigners, was supported by half of the interviewees, while only one participant suggested cram school.

The confidence experience of the school learning has one tip for students themselves and some recommendations for teachers as listed in Table 8. First, seven out of the ten interviewees recommended well preparation as a good strategy. Practice for different activities, including forced course briefing, department parties, and school competitions, all came out to have a positive influence on self-confidence in English speaking.

Table 8*The responses of the experience to boost the English spoken confidence*

Category	Item	Statement
Self-learning	Watching videos or movies	Watch youtube videos as much as possible and be brave to talk. (#4-5) Listen to English music and video self-learning. (#8-4) Watch American drama and then practice the situation in minds like foreigner asks directions or course question answering. (#9-4)
	Making friends with foreigners	I have met foreigners and found that they were very nice. Also, google or mobile phone can help and therefore I don't have to fear. (#2-7) I often participated in discussion-type, chat-type live courses, including church English classes or friend gatherings) (#3-7) English movies and daily dialogues helped. (#4-7) I have visited the foreign server, met foreigners, and made friends. (#7-4) Use life-like dialogue and talk to international students. (#9-4)
	Cram school	Recently, I liked English more because I started learning in a cram school and hope to be asked; then, I can practice my English. (#8-A)
School learning_for students	Well preparation	I need to be fully prepared. When I was in high school and prepared a report for half a year, I felt so assured when I was reporting. (#2-1); Practice a few times helps. (#2-5) More preparation is required for different types of oral or speaking activities. (#3-5) Talk as much as possible and those who want to learn will find their own way. (#4-4) Thanks to the activity "be my guests" of the department party, it's my first time interacting with foreigners. After 2-3 days of drafting and private practice, I went to invite the international students and got positive feedback, which enhanced my self-confidence. (#6-1) Since I was a child, I have been very happy to go on stage and receive awards. Now I am more afraid, but I must be fully prepared. (#7-5) Fortunately, this junior year's English briefing, I spent a lot preparing, and it feels good. (#8-1) Be fully prepared, even if I am still a little anxious. (#10-5)
School learning_for educators	Repeating the cycle of correction and submission	There's nothing teachers can do to make students feel more comfortable in a two-hour weekly course. But participating in Eplus this semester, it is helpful to revise and hand in the homework repeatedly. But the weekly hours were 9-hour in-class plus 3-hour self-study (12 credits). It is quite long. (#1-4)
	Forced English Briefing	There was a 5-minute PPT presentation to introduce Gopro in the first semester of the third grade. I prepared it from scratch, by myself and shared what I wanted to say to everyone, so I felt very confident and proud. (#3-1) There were two English briefing courses in the third grade. They were stressful but useful. (#4-7) One experience I felt very confident in speaking English was the 3rd grade English presentation practice, 5 min PPT full English presentation. We had homework every week. The PPT and oral practice were revised for one hour every week; therefore, we do not have to hand in a huge report at the end of the semester. (#5-1) (#8-1) shown above

(3) Experience to damage English spoken confidence

The participants experienced the following factors to damage the English spoken confidence: peer pressure, strangeness, and English self-learning centre. The first category, peer pressure, is sometimes a good tool to enhance learning performance; however, it is a common problem for the interviewees to reduce the confidence in English spoken. They usually quite care about other people's judgment, no matter if they know the audience or

not. Performance anxiety could result from the risk to reveal themselves by speaking the second language in the presence of other people (Osboe et al., 2007). Other fears are also presented: losing face, poor English ability, making mistakes (Sheeba & Karthikeyan, 2018), as shown in Table 9.

Table 9

The responses of the experience to damage the English spoken confidence

Category	Item	Statement
Interact with people/Peer pressure	Fear of losing face	At the beginning of the freshman year, there was a teacher who wanted us to speak English on the stage, so I was a little nervous. I'm afraid that some hidden masters would make a fool of me. (#7-6)
	Fear of poor English ability	When I am with classmates who are good at English, I feel that I am not good enough. (#8-2)
	Fear of making mistakes	Mispronounced, being corrected, were my very uncomfortable experience when speaking English. (#1-2) Once in Nantai Street, I met a foreigner who warmly greeted me, but I was afraid that I would make a mistake or misunderstand, so I said sorry and ran away quickly. (#2-2)
	Extreme case_ fear of being ostracized	If there is a question to ask in front of the whole class, I would ask it politely. Because I worry that I could get hurt. (#3-E) I once gave a speech in English in front of my classmates in Taiwan. I felt the ridicule and abuse caused by my classmates' jealousy. When I spoke, I expected what the classmates would do after my speech. This was a very uncomfortable experience in English speaking. (#10-2)
Interact with people/strangeness	Familiarity	Because they are my classmates, I know them. It's okay, I won't feel uncomfortable. (#4-B) The classmates are okay, at least we know each other, but if I don't know them, I will be more nervous. (#6-B)
	Fear would grow when talking to strangers	When the teacher asked me a question in front of the whole class, if I didn't understand it, I would ask the teacher to explain it again. It doesn't matter if I use the wrong grammar or words to answer the teacher's question. However, if he is a stranger, I would not dare to answer his questions, for fear of misunderstanding. If he is a stranger or not, it is very important to me. (#2-A) If the teacher asked me to find/choose a partner in the classroom, I would feel reluctant. Because this is a certain difficulty, and I don't know the other party's willingness. (#3-B)
School learning-English self-learning center*	Negative opinion	The obsessive self-learning center is harmful. (#1-4)
	Neutral opinion	Free foreign language courses in the school's self-learning center, increase self-confidence, initiative, and dare to speak. But our English strength was not really improved, however, it does promote learning (knowing where you are lacking). It could be a catalyst for learning. (#3-A-3)

*English self-learning center is established by the school. All students are required to take credits for watching English movies.

The next category of school to damage spoken confidence is strangeness. It does matter if the students know the person who they are talking to. Four interviewees responded they are comfortable talking to familiar people, like instructors or classmates who are willing to talk to them. These results are related to the item of the fear of losing face in Table 9. It also results from the problem of interaction with people. As a result, abundant researchers (Aziz & Kashinathan, 2021; Ghonsooly et al., 2012; Masutani, 2021; Park & Lee, 2005; Quinto & Macayan, 2019; Ratnasari, 2020) concluded that an educator is responsible to create a friendly and cooperative environment in the classroom to encourage students to speak the targeted language.

For the final category of the school to damage spoken confidence, English self-learning centre, no student took the initiative to mention it, while two participants were asked by the interviewer. And they don't really promote the learning effects of the centre. One freshman even though it's harmful because of coercion, as shown in Table 9 (#1-4).

(4) Good attitude and effective learning path

After the analysis of the interviewees' responses, here are four suggestions from the interviewees' experience: practice, scaffolding, real situations, and learning from mistakes. The details of the four items will be discussed first and then analysed into the categories of attitude and learning path accordingly in this section.

The number one recommendation to improve confidence in English speaking is abundant practice before the assignment is due. More practice is considered by students to be the first suggestion for self-confidence in oral English (#2-1, 2-5, 3-5, 4-4, 6-1, 7-5, 8-1, 10-5). Meanwhile, "lack of practice" was the main cause of oral presentation difficulties faced by the polytechnic students in Malaysia (Whai & Lai Mei, 2015) and more (Yusa, 2021); in addition, all of the eight participants in semi-structured interviews assured that "practice" was the best solution to cope with language learning and speaking challenges (Abrar, 2018). Being well-prepared before speaking in English was the aspect in which students felt the most self-confident also for the Engineering students in Indonesia (Araminta, 2018). However, it was found that the engineering students were less prepared than the commerce students when dealing with oral presentations (Whai & Lai Mei, 2015). Therefore, an instructor should provide more chances to practice for the spoken English learners (Songsiri, 2007).

Even though students can understand the importance of English to their academics and future career, based on the human nature of the fear of losing face (#7-6) or making mistakes (#1-2, 2-2), on top of that they are used to or like to be forced to learn (#1-D, 1-E, 3-E, 4-C, 6-E, 7-C, 7-4, 8-A, 8-4, 10-7), it's still challenging to teach English speaking in the classroom. One thing noteworthy for the instructors, as offering abundant practice in the course, is to have the learning path in mind and ignore the protests of the students in the beginning when proving assignments and challenges for the learners. Through the learning path in difficult situations, the students will develop self-confidence eventually. This may seem like a common sense like "no pain, no gain", but it's effortful for the educators in the process. The teacher must consider multi-roles, including a strict coach who sets clear rules, a patient teacher who repeats the teaching materials and explanations, and even a cheerleader who cheers and encourages the learners. On top of that, the teacher should be wise enough to choose the correct role to play at perfect timing. Teachers' roles, including helper, encourager, facilitator, and motivator, were one of the factors to encourage students' learning and to have students slightly change from negative to positive attitudes towards language learning (Songsiri, 2012).

Secondly, as shown above, in the case of #5-1, a successful learning outcome is owing to a very delicate scaffolding built by the teacher. Another similar recommendation is also demonstrated above in #1-4 of the repeat cycle of the correction and submission process. In addition, #5-4 suggested to make an on-stage presentation successful is to have a group discussion in advance. It's also a skill of scaffolding to have students well prepared before a class report in public and therefore it could reduce the anxiety significantly.

The third suggestion is to learn in a real situation like many interviewees reported that they were inspired by the talk with foreigners (#2-7, 3-7, 4-7, 7-4, 9-4). An authentic learning environment would help. Students could encourage themselves to try something new like talking to the international students on the campus. Instructors or the department can create an opportunity to make students of different countries mingle and make friends. Authentic activities and materials (Aziz & Kashinathan, 2021; Wu et al., 2011) and task-based teaching (Awang & Pendidikan, 2011; Chiraporn & Jogthong, 2013; Shantha & Mekala, 2018) (Howji et al., 2021) were highly recommended to assist learners in developing self-confidence and motivation to speak the language confidently.

Lastly, learn from mistakes. Mental fragile is more and more common in the 21 century and our interviewees did reveal their rejects to interact with strangers or even classmates. Some literature mentioned that the instructors should create a friendly environment to encourage students to talk and tell them it's all right to make mistakes (Osboe et al., 2007; Park & Lee, 2005; Songsiri, 2007). This study would suggest that it's more than that. The instructors could encourage students to make mistakes and tell them it's the best way to learn by your personal experience of mistakes. You'll remember the materials more effectively for a much longer time (Dweck, 2015). Meanwhile, the learners should also encourage themselves (Ratnasari, 2020; Wijirahayu & Dorand, 2018) and sometimes embrace a risk-taking attitude (Araminta, 2018).

To sum up the findings for the second research question, the learners suggested “well preparation” the top learning attitude to enhance spoken confidence. On top of that, “learning from mistakes” is also recommended by the study. Meanwhile “self-encouragement” (Wijirahayu & Dorand, 2018) and “risk-taking” (Araminta, 2018) were also good attitudes for the learners. On the other hand, an educator should prepare an effective learning path with abundant practice, delicate scaffolding, authentic learning, and encouragement to make mistakes.

V. Conclusions

The statistic results demonstrated the subjects' situation in the speaking English confidence and capability. First of all, the ability, knowledge, confidence, and enjoyment in oral English could influence each other. Secondly, speaking privately in L1 or privately demonstrated better confidence. Also, the research subjects were more confident in their English ability in the future than in the present situations. Nevertheless, the overall values are quite below the median and the educators should worry that the target students are not capable of English speaking after graduation.

The strategies to enhance the self-confidence in speaking English for the subject students was summarized by the interview results. First, learning attitudes were recommended to improve English spoken confidence, including “well preparation”, and “learning from mistakes” which were associated with the attitudes of “self-encouragement” and “risk-taking” suggested by other studies. On the other hand, the instructor should keep an effective learning path in mind to work out the resistance from the students. Humans naturally like to succeed in the end, but dislike to work hard in the middle; therefore, students unconsciously invite some enforcement from the superior like teachers to help them. An effective learning path is comprised of “plenty practice”, “delicate scaffolding”, “authentic activities”, and “encouragement about making mistakes”.

After answering the two research questions, the picture of how to promote spoken English for the objects is emerging. An important idea from the results of the questionnaire and interview is contradictory that the objects' situation in the speaking English confidence and capability is worrisome and urgent; however, the strategy to enhance the self-confidence in speaking English for the object students would take time. This study does not recommend any magic strategy could promote students' spoken English instantly, but a long-term learning attitude for the target students is highly recommended, including well preparation, learning from mistakes, self-encouragement, risk-taking and so on. Additionally, a difficult mindset was promoted for the educators: learning is not a step, but a path, which is again time-consuming. The learning path includes preparing abundant practice for the students, delicate scaffolding of the content, authentic learning context, and always encouraging the learners to try and make mistakes. Finally, an unexpected but important reminder for the course instructors to implement the learning path is to realize the conflict of the learners that they are inviting challenging for growth, however with resistance.

Anyway, the whole process starts from the learners with good learning attitudes and the educators with instructive learning/teaching path. The students would perform well in the process and therefore accumulate real

confidence based on their own performance. Finally, they can enjoy the spoken English, like the research has found that the enjoyment of the learning experience can best predict long-term changes in ability (Wu et al., 2011).

There are limitations of this study. First, a nonprobability sampling was used in this study; therefore, the results are not possible to be generalized to a larger population, especially since the nature of this study is exploratory rather than confirmatory. Second, the use of questionnaires in this study was rather insufficient to infer findings; its numerical results point out only little difference among the 5 factors. This drawback was compensated by the qualitative data from the interview results which provide more abundant information on the students. However, this presents another concern, which is that interviewing a novice student could be difficult. The quality of the collected information depends on not only the interviewer's skill, but also the interviewees' willingness to enclose as much as relevant information. Future research needs to address these issues, for example, by using learners'/instructors' diaries and classroom observations to gather more perspectives and allow for triangulation of data.

References

- Abdullah, K.I., & Abdul Rahman, N.L. (2010). A study on second language speaking anxiety among UTM students. *A Study on Second Language Speaking Anxiety among UTM Students*, 1–6. (Unpublished).
- Abrar, M., Mukminin, A., Habibi, A., Asyraf, F., & Makmur, M. (2018). If our English isn't a language, what is it? *Indonesian EFL Student Teachers' Challenges Speaking English*, 23(1), 129–145.
- Al-Tamimi, A., & Shuib, M. (2009). Motivation and attitudes towards learning English: A study of petroleum engineering undergraduates at Hadhramout University of Sciences and Technology. *GEMA Online® Journal of Language Studies*, 9(2).
- Anuyahong, B. (2017). *Effects of English speech and anxiety in speaking English of first year undergraduate students in private university* Proceedings of 13th International Conference on Humanities & Social Sciences 2017, KhonKaen University, Thailand.
- Araminta, L.D.W. (2018). Influences on the speaking self-confidence of undergraduate engineering students in Indonesia. *Asian Journal of English Language Teaching*, 27.
- Ariani, D. (2020). Problems of electrical engineering department students of Polytechnic of Raflesia in speaking English in group presentation. *Journal of English Education and Teaching*, 4(2), 195–205.
- Awang, Z., & Pendidikan, H. (2011). Perception of electrical engineering UTM students on task-based speaking activities in fostering students communication in English. *Teacher Exploring Tasks in English Language Teaching*, 6(4), 18–25.
- Aziz, A.A., & Kashinathan, S. (2021). ESL learners' challenges in speaking English in Malaysian classroom. *Development*, 10(2), 983–991.
- Chang, L., & Yan, P. (2017). Teaching English public speaking to Chinese students of science and engineering based upon cognitive load theory. *DEStech Transactions on Social Science, Education and Human Science*(meit).
- Chiraporn, U., & Jogthong, C. (2013). Effect of task-based learning on agricultural machinery engineering students' English speaking ability at Rajamangala University of Technology Isan, Nakhonratchasima. *RMUTP Research Journal Special Issue-The 4th Rajamangala University of Technology International Conference*, 162–166.

- Dastidar, A.G., & Choudhury, R.R. (2018). Implementing the theory of multiple intelligence for teaching/improving English speaking skills of engineering students. *International Journal of English Learning & Teaching Skills*, 1(2), 180–184.
- Dweck, C. (2015). Carol Dweck revisits the growth mindset. *Education Week*, 35(5), 20–24.
- Ghonsooly, B., Khajavy, G.H., & Asadpour, S.F. (2012). Willingness to communicate in English among Iranian non-English major university students. *Journal of language and Social Psychology*, 31(2), 197–211.
- Gullur, M., & Mathew, J. (2020). Enhancing thinking skills in engineering students through speaking activities. *Dogo Rangsang Research Journal*, 10(7), 52–57.
- Hou, H.I., Yang, C.C.. (2007). An analysis of vocational university students' English proficiency: A case study at Shu-Te University. *Journal of Evergreen University*, 11(1), 107–123.
- Howji, N.R., Allamneni, S., Pradhan, A.K., & Chavan, V.K. (2021). Learning By doing: Enhancing speaking skills of engineering students through the Tbl approach. *International Journal of Aquatic Science*, 12(2), 980–986.
- Ibrahim, I.W., & Shahabani, N.S. (2020). The use of public speaking to promote confidence in learning english as a second language. *European Journal of English Language Teaching*, 6(1).
- Jindathai, S. (2015). Factors affecting English speaking problems among engineering students at Thai-Nichi Institute of Technology. *TNI Journal of Business Administration and Languages*, 3(2), 26–30.
- Kaowiwattanakul, S. (2020). Using literature circles to promote the English speaking skills of engineering students in English for specific purposes classrooms. *LEARN Journal: Language Education and Acquisition Research Network*, 13(2), 414–425.
- Kumar, P.V., & Divya, K. (2021). Teaching through innovative tools to enhance speaking skills of first year engineering students in the Coastal Districts Of Andhra Pradesh. *International Journal of Aquatic Science*, 12(2), 1169–1174.
- Lenka, S.K. (2014). Using role play for developing speaking skill in English among engineering students of Centurion University, Odisha. *Language in India*, 14(5), 292–302.
- Lu, W., & Qiuping, H. (2020). Stimulating motivations in English speaking for students majoring in engineering. Proceedings of the 2020 International Conference on Computers, Information Processing and Advanced Education,
- Masutani, Y. (2021). The foreign language anxiety of Japanese EFL learners focusing on anxiety when speaking English. *LET Kansai Chapter Collected Papers*, 19, 1–14.
- Mingke. (2019). *People's daily criticized: Sleeping college students, if you don't lose your job, that's really unbearable!* <https://read01.com/P5NO3L8.html#.YepiPOpBxPU>
- Nazarova, G., & Umurova, K.H. (2016). Self-confidence and its importance in learning languages. *International scientific journal*(4 (2)), 47–49.
- Osboe, S., Fujimura, T., & Hirschel, R. (2007). Students confidence and anxiety in L2 speaking activities. Proceedings of the Independent Learning Association 2007 Japan Conference: Exploring Theory, Enhancing Practice: Autonomy across the Disciplines. Kanda University of International Studies, Chiba, Japan.
- Park, H., & Lee, A.R. (2005). L2 learners' anxiety, self-confidence and oral performance. Proceedings of the 10th Conference of Pan-Pacific Association of Applied Linguistics,

- Pipattarasakul, P., & Singhasiri, W. (2018). Metastrategies employed by science and engineering EFL learners in a speaking task. *Journal of Asia TEFL*, 15(1), 66.
- Quinto, E.J.M., & Macayan, J.V. (2019). Exploring English speaking anxiety among Filipino engineering students: Its influence on task performance and its sources. *GEMA Online® Journal of Language Studies*, 19(3).
- Rana, B.B., & Gida, S.R. (2017). Language anxiety in acquisition of speaking skill among engineering undergraduates. *International Journal of Research and Analytical Reviews*, 4(1), 39–42.
- Ratnasari, A.G. (2020). EFL students' challenges in learning speaking skills: A case study in mechanical engineering. *Journal of Foreign Language Teaching and Learning*, 5(1).
- Reddy, K.J. (2019). Relevance of listening and speaking skills for engineering students in their professional career. *Language in India*, 19(11), 150–159.
- Renuka, B. (2020). Enhancing the interpersonal skills of engineering students through listening and speaking activities. *International Journal of ELT, Linguistics and Comparative Literature*, 8(2), 7–11.
- Shantha, S., & Mekala, S. (2018). The impact of pedagogical intervention in developing the speaking proficiency of engineering students. *Pertanika Journal of Social Sciences & Humanities*, 26(2), 735 – 750.
- Sheeba, W., & Karthikeyan, J. (2018). Factors that psychologically impede second language learners from speaking english-a perspective study among civil engineering students. *International Journal of Civil Engineering and Technology*, 9(8), 1233–1237.
- Singh, C.K.S., Masa, T.S., Singh, H.J.A., Hoe, T., Jeevi, G., & Subramaniam, M. (2019). Developing a prototype speaking game for engineering students at polytechnic Malaysia. *Journal of Engineering Science and Technology, Special Issue 3/2019*, 9–17.
- Singhanuwananon, S., & Chatpunnarangsee, K. (2018). Unintelligibility: Problematic linguistic areas of pronunciation and their impact on self-confidence in english speaking among thai engineering students. *Proceedings (Volume 1)*, 76–88.
- Songsiri, M. (2007). *An action research study of promoting students' confidence in speaking English* [Victoria University].
- Songsiri, M. (2012). Action research in action: Enhancing students to reach their speaking goal with confidence in a large class with limited time by action research procedures and awareness-raising. *International Proceedings of Economics Development and Research (IPEDR)*, 37(5).
- Thayniath, S., & Khan, S.M. (2019). Technology as an authentic learning tool to develop speaking skills of engineering students: A case study. *Test Engineering and Management*, 81, 4838–4845.
- Toomnan, P., & Intarapraser, C. (2015). The impacts of attitude towards speaking English on the use of communication strategies by English majors in Thailand. *Theory and Practice in Language Studies*, 5(6), 1151–1158.
- Whai, K.G., & Lai Mei, L. (2015). Causes of academic oral presentation difficulties faced by students at a polytechnic in Sarawak. *English Teacher*, 44(3).
- Wijirahayu, S., & Dorand, P. (2018). Affective strategies, attitudes, and a model of speaking performance development for engineering students. *Journal of Physics: Conference Series*,
- Wu, W.C.V., Yen, L.L., & Marek, M. (2011). Using online EFL interaction to increase confidence, motivation, and ability. *Journal of Educational Technology & Society*, 14(3), 118–129.

- Wu, X., He, J., Wuzhong, B., Wang, Y., He, J., & Xie, M. (2012, July 1–4). Implementation cdio concept in bilingual teaching in non-english-speaking country: a course studying in digital image processing. 8th International CDIO Conference 2012, Queensland University of Technology, Brisbane, Australia.
- Yusa, F. (2021). *An analysis of non-English students' difficulties in speaking English* [University of Islam Malang].