ISSN: 0974-5823 Vol. 7 No. 5 May, 2022

International Journal of Mechanical Engineering

PERCEIVED SELF-EFFICACY OF ENGINEERING STUDENTS WITH REGARD TO COMMUNICATION ABILITY IN IMPROMPTU SPEECH TASK

Noorsaiyidah binti Suradi

Fazidah bte Ithnin

Mohd Nizam bin Yusof

Tan Poh Ee

Linda Khoo Mei Sui

Centre for Language Learning, Universiti Teknikal Malaysia Melaka, Malacca, Malaysia

Abstract

There were increasing attention be given to the notion of speaking self-efficacy and its impacts on language teaching and learning. Scholars have discovered indirect correlation between self-efficacy to task performance. Speaking self-efficacy was defined as individual's awareness of his abilities to learn or perform the speaking task at the expected levels. However, many studies done on speaking self-efficacy focused on public speaking in general and were not narrowed down to impromptu speech. Drawing to fill in this gap, this study examines 3rd year Engineering students' perceived self-efficacy with regard to communication ability in impromptu speech task. 246 engineering students enrolled in English for Professional Interaction course in Universiti Teknikal Malaysia Melaka were the respondents of this study. A quantitative study was adopted to measure the students' self-efficacy from three dimensions namely ability, activity perception and aspiration. The study also investigates if there are different self-efficacy levels in relation to gender and hometown of the respondents. The key findings indicated that the respondents had considerably high level of self-efficacy with regard to their ability and perception towards impromptu speech task and were found to have high aspiration to be good English speakers. The study also reported significant difference in students' self-efficacy level between male and female as well as different self-efficacy levels between students from rural area and those from urban area. Exploring students' level of self-efficacy in impromptu speech activity can provide insights towards developing their communication skills and shed more lights on pedagogical implications in language teaching and learning.

Keywords: speaking self-efficacy, impromptu speech, communication skills, Engineering students

Introduction

Reading, writing, listening and speaking are the four language skills that students must learn. Speaking is defined as a mean to communication that plays important roles for people to convey information and express ideas. Many researches have marked the paramount importance of good communication skills in different contexts including workplace, personal life and social relationships (e.g. Demirel, 2020; Kuru, 2018; İşcan, Karagöz & Almalı, 2017; İşcan & Karagöz, 2016; Uzuner Yurt & Aktaş, 2016; Aydın & Başoğlu, 2014; İşcan, 2013). Therefore, the teaching and learning of speaking skill is of great importance and any issues related to it should be deeply addressed.

In teaching and learning context, the goal of teaching speaking is to improve students' communicative skills, since good communication skills enable students to convey information, express their opinion and adapt to the social and cultural rules appropriate in each communicative circumstance. In teaching and learning speaking, the focus is generally on body language, eye contact, vocal variety, conversational style, clear articulation, idea development, organization, confidence, interaction with audience, and meeting the allotted time for a particular oral activity. Classroom language activity for speaking comes in many different forms with different objectives to suit the needs of language learners. Among the most common activities for speaking include discussion, public speaking, storytelling, oral presentation and mock interview. Delivery of public speaking can be conducted in 2 ways; with prepared speech or impromptu speech. The prepared speech was defined as speech delivered with a certain duration given for preparation prior to the delivery. In contrast, impromptu speech was defined as speech delivered with little or no immediate preparation (Lucas, 2005). Scholars such as Yale (2014) highlighted the importance of impromptu speech as an important strategy to promote learners' ability to communicate effectively, especially in organizational settings.

However, impromptu speeches are sometimes very intimidating to language learners especially ESL and EFL learners. Lack of waiting time, limited background knowledge on the topic, poor mastery of English vocabulary, limited speech organization skills are among the challenges that cause anxiety among second language learners in doing impromptu speech activities. Determining students' level of anxiety in doing impromptu speech and understanding the causes that lead to it would help instructors to design effective strategies to tailor their classroom instructions and activities to different groups of students. Evidence proved that self-efficacy plays a mediating role between students' English performance and learning anxiety (Woodrow, 2011). The higher their self-efficacy, the less anxious they will be and the more confident they are to do the task assigned. Therefore, in developing students' communication skills, instructionally manipulable factors such as self-efficacy should be given close attention.

Many studies on speaking self-efficacy focused on public speaking task in general while research on self-efficacy in impromptu speaking is still scarce and lacking. For this reason, this study aims to investigate the students' self-efficacy in impromptu speech task done on 3rd year Engineering course students in Universiti Teknikal Malaysia Melaka measured from three different dimensions namely ability, perception and aspiration.

The following research questions were answered in the study:

1. What is the students' perceived self-efficacy with regard to communicative abilities in impromptu speech task?
2. Is there any significant difference between male and female students on their self-efficacy in doing impromptu speech task?
3. Is there any significant difference between students from urban area and those from rural area on their self-efficacy in doing impromptu speech task?

Literature Review

Speech activities involve complex mental, cognitive and affective skills operation (Altunkaya et.al, 2017). The affective factor such as motivation, anxiety, personality traits, attitude, self-esteem, and self-efficacy, and other individual differences, such as gender, age, and nationality gives great effects to learners in language learning. When a learner feels extremely anxious to speak English in public, they will tend to easily lost for words. Consequently, it ends up with poor speaking performance (Sundari & Dasmo,2014). In other words, the person's belief concerning his or her completion of task, also called self-efficacy, may influence him in performing the task. Learners' willingness to speak, their beliefs about their abilities to deliver the speech and what matters to them before and during the speech influence their verbal skill.

Self-efficacy originates in the work of Albert Bandura. There has been increasing trends among researchers to conduct research related to self-efficacy. Demir (2018) indicated that learners who hold greater self-efficacy beliefs toward language learning also perform higher academic scores. He suggested that building and boosting students' perceptions about their capability toward learning English is of the importance as constructing language competence by a curriculum. Self-efficacy was defined as one's judgement on his capacity to do a particular task. Specifically, speaking self-efficacy can be defined as students' own judgements on their capacity to deliver an oral task. The students' self-efficacy levels could positively or negatively affect their verbal skill.

Bandura (1997) suggests that there are four sources of self-efficacy beliefs; namely performance achievements based on individuals' own experiences, indirect experiences, verbal persuasion and emotional state. Positive self-efficacy beliefs are developed through successful experiences of the individual during his learning process whereas the negative self-efficacy beliefs are the results of unsuccessful experiences of the individual. Indirect experiences are the beliefs that one acquires indirectly by making comparison on his achievement to his peers' achievement. Verbal persuasion was defined as the opinion of others such as peers, teachers and family about his ability to do the task given which could influence one's self-efficacy. The emotional state is one's belief that the learning is associated with her or his emotional state based on the fact that learning has both cognitive and affective aspects.

Those who have low self-efficacy will find the tasks given as challenging and may easily allow themselves to be carried away by fear and negativity. This may increase the task pressure, demotivate them and distract their focus in doing the task. By contrast, students with strong self-efficacy may set higher goals, put extra effort, more persistent, adopt various strategies to succeed, and seek more tangible solutions to accomplish the task (Zhang et. al, 2020). Thus, perceived self-efficacy determines the level of effort and persistence one is to face obstacles throughout the learning process as well as determines how successfully goals are accomplished (Effendi, 2018).

A study by Paradewari (2017) on English teacher candidates found that the candidates had positive self-efficacy in all sub-factors affecting self-efficacy that are mastery experience, vicarious experience, social persuasion, and physiological states such as anxiety and stress. Ningias & Indriani (2021) in their research revealed that the EFL students from English Department at Tidar University had strong self-efficacy in speaking during online learning process. A study by Zahiri, Sibarani, & Sumarsih (2017) examining students' anxiety and self-efficacy while doing English monologue discovered the effect of anxiety and self-efficacy to students' speaking skill. Maryam et.al (2019) indicated that self-efficacy in public speaking learning process was important to improve their achievement in speaking skill and improve their confidence. The results were also consistent to a research by Suharja (2020) who indicated that learners who hold greater self-efficacy beliefs toward language learning also perform better in their academic tasks. Hidayah (2020) was also discovered that students' self-efficacy has a positive correlation with students speaking performance.

Therefore, knowing students' self-efficacy level in is important so that a plan of action can be carried out to boost students' self-efficacy in language learning process.

Methodology

This study was carried out at Universiti Teknikal Malaysia Melaka (UTeM) with a non-experimental quantitative method employed as research design. A medium sample size of 246 3rd year undergraduate students doing engineering programmes enrolled in English for Professional Interaction (EPI) course participated in this study. This course was designed to develop students' listening skills as well as communication skills and strategies. Among the elements covered in this course were professional interactions that include group discussion, public speaking focusing on impromptu speech and video resume production. Google form consisted closed-ended questionnaire was sent out via Whatsapp apps, shared among instructors and distributed to the respondents a week after they have completed their online impromptu speech task.

The survey questionnaire was adapted from Idrus & Sivapalan (2010) consisted of 19 Likert-scaled questions classified into three different dimensions namely ability, perception and aspiration. The respondents indicated their agreement or disagreement to each statement with 1 (strongly disagree),2(disagree), 3(neither agree or disagree), 4(agree) and 5 (strongly agree) to gauge the respondents' perceived self-efficacy with regards to their communication ability in impromptu speech task that they have done. 1 week was allotted for respondents to respond to the survey questionnaires. The data obtained from the questionnaires were analysed using SPSS.

TABLE I. RESPONDENT DEMOGRAPHIC BACKGROUND

		(n)	**(%)**
Gender	Male	151	61.4
	Female	95	38.6
Hometown	Rural area	122	49.6
	Urban area	124	50.4

Table I shows 246 respondents are made up of 107 (61.4%) male and 56 (38.6 %) females. For hometown, 122 (49.6%) were from rural area while 124 (50.4%) were from urban area. Hometown were defined as the place where they grew up and sometimes where their parents and long-time friends still remain.

Table II depicts the latent variables and measured items.

TABLE II: OPERATIONAL DEFINITIONS FOR LATENT VARIABLES & MEASURED ITEMS

Latent Variables	**Operational definitions**	**Measured Items**
ABILITY (AB)	perceived judgement on self- potential to do impromptu speech task	**(AB_1)** I do good job in delivering impromptu speech done in English.
		(AB_2) I can put my idea in English well during the impromptu speech task.
		(AB_3) I can think of many words to describe my ideas during impromptu speech task.
		(AB_4) I know exactly how to say something in English so that it is easy to understand.
		(AB_5) I can pronounce the words correctly during the impromptu speech task.
		(AB_6) I can speak grammatically correct sentences during the impromptu speech task.

		(AB_7) I can control my nervousness during the impromptu speech task.
		(AB_8) It is not difficult for me to concentrate while speaking during the impromptu speech task.
		(AB_9) I can avoid distractions while speaking during the impromptu speech task.
		(AB_10) I can start my speech immediately during the impromptu speech task.
		(AB_11) I can continue speaking smoothly even when I lost my words during the impromptu speech task.
		(AB_12) I can keep speaking even when it's difficult during the impromptu speech task.
Perception (PE)	the way in which impromptu speech activity is regarded	**(PE_1)** I enjoy speaking during the impromptu speech task.
		(PE_2) I do not find speaking for impromptu speech task hard to do.
		(PE_3) Delivering impromptu speech is stress-free.
ASPIRATION (AS)	a desire or goal with respect to speaking in English	**(AS_1)** One of my main goals is to be much better at speaking English before graduation.
		(AS_2) Speaking well in English is one of my main goals.
		(AS_3) I would like to speak good English just like other students who are good speaker.
		(AS_4) I would like to be a fluent speaker so that I will be respected by others.

The measured items which were adapted from survey questionnaires designed by Idrus and Sivapalan (2010) were classified under 3 latent variables namely Ability(AB), Perception(PE) and Aspiration(AS). The first latent variable labelled as Ability(AB) consisted of twelve items that measured the students' perceived judgement on their potential in doing impromptu speech task. The second latent variable labelled as activity perception(PE) contained three items that measured how students perceived the impromptu speech task while the third labelled as Aspiration(AS) were statements to measure students' desire or goals with respect to speaking in English.

Findings & Discussion

For this study, the basis of the discussion is the judgment on the means scores, whereby a mean of 3.0 and below signifies higher self-efficacy, while a mean of 3.1 to 5.00 signifies higher self-efficacy. This is based on the range of scores in the survey questionnaires.

Table III shows the mean distribution of the variables.

TABLE III. VARIABLES MEANS DISTRIBUTIONS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ABILITY	246	1.50	5.00	3.4759	.58994
PERCEPTION	246	1.00	5.00	3.4241	.74040
ASPIRATION	246	1.75	5.00	4.2978	.61694

Findings showed that students' aspiration has the highest mean score value of m =4.29; SD = 0.61 followed by perceived ability with m = 3.47; SD = 0.58 and perception with m = 3.42; SD = 0.74. The results of the survey indicated that students had high perceived self-efficacy in their ability and perception in doing the impromptu speech task as well as having high aspiration to be better English speakers in the future. They were confident that they did well in delivering impromptu speech task, were able to put their ideas in English well, can think of many words to describe their ideas and know exactly how to say something in English. They also believed that they can pronounce English words correctly, can speak grammatically correct sentences, can manage their anxiety during the impromptu speech task, did not feel difficult to focus during the impromptu speech task. The respondents were efficacious that they managed to handle distractions while speaking during the impromptu speech task, can begin speaking immediately after the instruction was given, can continue speaking smoothly even when they suddenly lost for words or faced difficulties during the impromptu speech task. The findings also illustrated that they found impromptu speech task as enjoyable, not difficult to do and it was stress free. They were very aspired to be much better at speaking English before graduation, have set to be good speakers of English as their main goal, would like to speak good English just like other students who are good speakers and would like to be fluent speakers so that they will gain respect from people.

Self-Efficacy Level in Relation to Gender

Table IV and table V show the group statistics and the t- test between genders based on the three factors or dimensions.

TABLE IV: GROUP STATISTICS (GENDER)

	Gender	**N**	**Mean**	**Std. Deviation**
ABILITY	Male	151	3.5188	.57116
	Female	95	3.4079	.61556
PERCEPTION	Male	151	3.5011	.70750
	Female	95	3.3018	.77806
ASPIRATION	Male	151	4.2368	.63757
	Female	95	4.3947	.57262

Note: Scale: 1-5, ranging from (5) strongly agree to (1) strongly disagree. The higher the score, the higher the self -efficacy level.

TABLE V: T- TEST BETWEEN GROUPS(GENDER)

		Levene's Test for Equality of Variances	t-test for equality of means		
		Sig.	t	df	Sig. (2-tailed)
AB	Equal variances assumed	.359	1.438	244	.152
	Equal variances not assumed		1.414	188.713	.159
PE	Equal variances assumed	.681	2.070	244	.040
	Equal variances not assumed		2.025	185.738	.044
AS	Equal variances assumed	.505	-1.967	244	.050
	Equal variances not assumed		-2.016	215.615	.045

For (AB), the results of the study were not significant (t = 1.438, df = 244, p> 0.05 = .413). There was no significant difference between the male group (m = 3.51; SD = 0.57) and the female group (m = 3.40; SD = 0.61) for Ability.

While for (PE), the results of the study were statistically significant (t = 2.070, df = 244, p< 0.05 = .040). Significant difference between the male group (m = 3.50; SD = 0.70) and the female group (m = 3.30; SD = 0.77) was found for perceived usefulness. The results revealed that male students had more positive self-efficacy on their perception towards impromptu speech task compared to female.

For (AS), the study result was also statistically significant (t = -1967, df = 244, p ≤ 0.05 = .050). The researchers concluded that there was significant difference between the male group (m = 4.23; SD = 0.63) and the female group (m = 4.39; SD = 0.57) on their aspiration. The findings revealed that the female students had higher perceived self-efficacy on their aspiration compared to male students.

The results were contradicting to the findings of research by Demirel et.al (2020) who studied on speaking self-efficacy beliefs of Turkish University students which found that there was no significant difference between the students' self-efficacy beliefs based on gender. Respondents from different demographic contexts may have different social and cultural beliefs that could possibly influenced the results.

Self-Efficacy Level in Relation to Hometown

Table VI and VII show the group statistics and the t- test between hometowns based on the three latent variables.

Table VI: Group statistics (Hometown)

	Hometown	N	Mean	Std. Deviation
ABILITY	Rural	122	3.3893	.61195
	Urban	124	3.5612	.55685
PERCEPTION	Rural	122	3.4044	.69132
	Urban	124	3.4435	.78803
ASPIRATION	Rural	122	4.2029	.63501
	Urban	124	4.3911	.58629

Table VII: T- test Between Groups (Hometown)

		Levene's Test for Equality of Variances		t-test for equality of means		
		F	Sig.	t	df	Sig. (2-tailed)
AB	Equal variances assumed	.155	.694	-2.304	244	.022
	Equal variances not assumed			-2.302	241.066	.022
PE	Equal variances assumed	1.411	.236	-.414	244	.679
	Equal variances not assumed			-.415	240.870	.679
AS	Equal variances assumed	.013	.910	-2.416	244	.016
	Equal variances not assumed			-2.415	241.776	.016

For (AB), the results of the study were statistically significant (t = -2.304, df = 244, p < 0.05 = .022). There was significant difference between the rural group (m = 3.38; SD = 0.61) and the urban group (m = 3.56; SD = 0.55) for Ability. The results indicated that the students from urban area had higher perceived self-efficacy on their abilities in impromptu speech task.

While for (PE), the results of the study were insignificant (t = -.414, df = 244, p>0.05 = .6.79. No significant difference between the rural group (m = 3.40; SD = 0.69) and the female group (m = 3.44; SD = 0.78) was found for perception.

For (AS), the study result was also statistically significant (t = -2.416, df = 244, p< 0.05 = .016). The researchers concluded that there was significant difference between the rural group (m = 4.20; SD = 0.63) and the urban group (m = 4.39; SD = 0.58) on their aspiration. The findings showed that the urban group had higher self-efficacy on their aspiration compared to those from rural area.

Conclusion

The present study was carried out to explore Engineering students' perceived self-efficacy with regard to their communicative abilities in impromptu speech task measured from three dimensions. The results indicated the students had high self-efficacy on their communicative abilities in impromptu speech task. Their aspiration to be good English speakers was the highest among the three factors measured in this study. The findings also revealed significant difference levels of perceived self-efficacy beliefs between male and female with regards to their perceptions and aspiration. Male group perceived impromptu speech more positively than female while female group had higher aspiration compared to male. The urban and rural groups showed significant difference in their

perceived abilities in impromptu speech task with urban group was found to have stronger aspiration and more confidence in their abilities performing impromptu speech task compared to the rural group.

The results of this study have provided insights towards the need for the instructors to use different methods to boost students' perceived self-efficacy that address different groups of students with different self-efficacy levels. Many studies have found the positive correlation between self-efficacy and achievement in language tasks. The students' self-efficacy beliefs should be given attention in developing programmes or courses for their professional development. Given the importance of self-efficacy for success in academic context, instructors can adopt various teaching strategies to build students' self-efficacy in speaking activities including providing constructive feedback to students during speaking tasks, in which students are informed about what to improve. Instructors can develop students' confidence to speak by assigning familiar speech topics to students. Grouping students for oral group activities with their peers that have the same proficiency level at the initial stage might be helpful to establish less intimidating learning environment.

Limitations of this study should be noted. The fact that the respondents were engineering course students from only a university in Malaysia, limits the generalisability of the findings. Moreover, as the study was done on medium sample size respondents, it is recommended for future researchers to conduct replication studies with bigger sample size and different educational settings. Qualitative or mix method of studies can be carried out to investigate deeper on the underlying factors that influence students' self-efficacy beliefs and strategies adopted by instructors as well as challenges faced to encourage the development of students' self-efficacy in impromptu speeches.

This study has managed to answer the research question which indicated that students had high self-efficacy with regard to their communication ability in impromptu speeches.

Acknowledgement

The authors would like to thank the Centre of Language Learning(CeLL), Universiti Teknikal Malaysia Melaka (UTeM), Research Group C-TeD – RIMA for supporting this research. This research was supported by a Special Grant for Language Teachers from Universiti Teknikal Malaysia Melaka KHASDG/2019/PBPI/Q00034.

References

1. Altunkaya, H. (2018). The Impact of Activity-Based Oral Expression Course on Speech Self-Efficacy of Students. *Journal of Education and Training Studies*, *6*(1), 137-150.
2. Bandura, A. (1986). Social foundations of thought and action: A social theory. Englewood Cliffs, NJ: Prentice-Hall.
3. Bandura, A. (1997). Guide for Constructing Self-Efficacy Scales. Toward anunifying theory of behavioral change. Psychological Review.
4. Demirel, M. V., Türkel, A., & Aydın, İbrahim S. (2020). Speaking self-efficacy beliefs of Turkish university students. *Cypriot Journal of Educational Sciences*, *15*(3), 399–411. https://doi.org/10.18844/cjes.v15i3.4905
5. Effendi, A. (2018). THE EFFECTIVENESS OF FISHBOWL TECHNIQUE TOWARDS STUDENTS'SELF EFFICACY IN SPEAKING. Journal of Languages and Language Teaching, 5(2), 46-51.
6. Hidayah, A. (2022). The Relationship between Students' Self-Efficacy and Their Speaking Ability (A Quantitative Correlational Study) (Bachelor's thesis, Jakarta: FITK UIN Syarif Hidayatullah Jakarta).
7. Idrus, H., & Sivapalan, S. (2010). Perceived self-efficacy of ESL students with regard to their oral communication ability.
8. Lucas, S. E. (2005). The art of public speaking (10th ed.). Boston, MA: McGraw-Hill.
9. Ningias, R. A., & Indriani, L. (2021). EFL Students' Perspectives on Their Self-efficacy in Speaking During Online LearningProcess. *English Learning Innovation*, *2*(1), 28-34. https://doi.org/10.22219/englie.v2i1.14965
10. Paradewari, D. S. (2017). Investigating Students' Self-Efficacy of Public Speaking. International Journal of Education and Research Vol. 5 No. p.97-108. https://www.ijern.com/journal/2017/October-2017/09.pdf
11. Suharja, S. (2020). THE CORRELATION OF SELF EFFICACY TO THE STUDENTS'SPEAKING PERFORMANCE IN EFL CONTEXT AT UNIVERSITY OF DAYANU IKHSANUDDIN BAUBAU. *English Education Journal*, 17-25.
12. Sundari, H., & Dasmo, D. (2014). The effect of speaking self-efficacy and gender in speaking activities. *Jurnal Pendidikan Bahasa dan Sastra*, *14*(2), 205-215.
13. Woodrow, L. (2011). College English writing affect: Self-efficacy and anxiety. System, 39(4), 510–522. http://dx.doi.org/10.1016/j.system.2011.10.017
14. Yale, R. N. (2014). The impromptu gauntlet: An experiential strategy for developing lasting communication skills. Business and Professional Communication Quarterly, 77(3), 281–296. doi:0. 1177/2329490614537874
15. Zahiri, A., Sibarani, B., & Sumarsih. (2017). To what extent do anxiety and self-efficacy effect the EFL students' English monologue speaking skill? International Journal of Education and Research, 5(9), 151-160
16. Zhang, X., Ardasheva, Y., & Austin, B. W. (2020). Self-efficacy and English public speaking performance: A mixed method approach. *English for Specific Purposes*, *59*, 1-16.