

Research on Oral English Fluency of EFL Learners Based on SPSS Software

Dr. Jixian Wang

01316@zjhu.edu.cn

School of Foreign Languages, Huzhou University, No. 759 Erhuandonglu, Huzhou, China

Abstract Speaking as a core component of English competence is an issue that concerns both EFL learners and teachers. The paper tends to investigate factors that may influence the international university students' fluency of speaking English in terms of nationality, gender, educational background, how much time spent in speaking English every day and the length time of stay in the host country. The relationship of the above variables and the self-reported fluency of speaking English will be discussed by the Mann-Whitney U Test and Spearman Correlation Test in SPSS. The statistical results show that those factors that affect English learners' attitudes towards speaking English do not play a significant role but one particular variable that does definitely affect the students' perception of oral English fluency, which is the time spent in speaking English, namely about 5 hours every day. This empirical research indicates that the more practice in speaking English every day the more comfortable the international students feel speaking English with others. It will be interesting to investigate specific ways to improve speaking such as social network and engagement in the community by qualitative method in order to provide evidence for better language supporting programs for international students in the host country.

Keywords: EFL speaking fluency; statistical analysis; SPSS; international students

1 Introduction

Speaking skill is one of the core components of English competence and how to speak well and naturally is an issue that learners care about and teachers concern about in learning and teaching English. In order to improve the English speaking proficiency many learners choose to study in the English-speaking countries immersing themselves in the language environment. This phenomenon arouses researchers' interests in regarding to the performances of speaking English in the study abroad context. Fluency is an essential component of language proficiency involving communicative competence according to Tarone and Yule (1989) [1]. For Segalowitz (et al., 2009) and Rossiter (2009) fluency refers the performance of language of the learners on the basis of the linguistic knowledge [2][3]. Ellis (1997) and Tavakoli and Uchihara (2020) comment that there were many factors that affect the EFL learners' learning experiences [4][5]. For instance, Segalowitz (et al., 2009) mentioned that the factor, such as ethnic affiliation, affects fluency development [2]. Moreover, Mora and Valls-Ferrer (2012, p.610) compared the oral fluency between at home country and study abroad context over a two-year period and found "strong evidence for the positive impact of a study abroad period on the development of oral fluency" [6].

But it is agreed that the more time of staying the more gains in linguistic competence and the more practice of speaking English and the higher of the fluency level is (Regan et al., 2009) [7]. However, there is little study that focuses on the self-reported oral English fluency of the international university EFL (English as a Foreign Language) students. As how much time they need to speak fluent English I cannot find any relevant studies. In this paper the relationship between the self-reported fluency and the relevant factors will be discussed and the time need to speak fluent English in the study abroad context will be pointed out. The author is interested in the factors that may influence the international university students' fluency of speaking English in terms of nationality, gender, educational background, how much time spent in speaking English every day and the length time of stay in the host country. Therefore the relationship between the above variables such as ethnicity, gender, educational background, time spent in speaking English every day and length time of staying abroad and the self-reported fluency of speaking English will be discussed.

2 Research Method

The main method design of the research is quantitative methodology, as both Gorard (2001) [8] and Dornyei (2007) agree that the statistics can show the complexity of social life [9]. For Hartas (2010) quantitative method is best for searching associations or relations [10]. In addition, Connolly (2007) comments that there are analysis tools that can be used in the analysis of quantitative data to show the research results, such as the software Statistical Package for the Social Sciences (SPSS) [11]. The questionnaires will be used to collect the different attitudes towards speaking English as the dependant variable. According to Dornyei and Taguchi (2010) questionnaires measure the factual questions, attitudinal questions including attitudes, opinions, interests, beliefs, values, which is in accordance with my research design investigating the different attitudes from the 5-degree scale [12].

2.1 Population and sampling

The questionnaires were distributed in the International and Postgraduate Students Centre (IPSC) of a University of the United Kingdom (UK) and it took the participants about 3 minutes to complete it with their consent and there was explanation about the use of the questionnaire, too. The targeted group were the international students who were available at the moment when I distributed the questionnaires and the samples were convenient samples. 56 questionnaires were collected in total. Among the 56 participants there are 30 male students, 25 female students and one missing the information of gender. The undergraduate and postgraduate students are the same with the number of 28 respectively. Their start time of learning English varies from kindergarten to high school. The nationality covers 19 regions in different parts of the world, namely, Baghdad, Bahrain, Bangladesh, Brazil, China, Ghazna, Hong Kong, Malaysia, Myanmar, Nigeria, Pakistan, Qatar, Saudi Arabia, Singapore, South Korea, Turkey, U.S.A., Vietnam and Zimbabwe. I classified the different regions into two categories of China and Other for the convenience of the analysis. But there are 4 participants who missed filling the item of country in the questionnaires.

2.2 Instrumentation

Quantitative method is widely used in conducting research in language teaching and learning and a questionnaire is designed to investigate the international students' attitudes towards speaking English. The questionnaire includes nine multiple choices questions, three open-ended questions including background information of the participants and their attitudes towards speaking English in terms of the perception of fluency, difficulty, importance and interest. Open-ended questions are about the birth place of the participants, the time they spend in speaking English every day and the advice they give for EFL learners who want to improve their speaking skills. The template is used to format your paper and style the text.

2.3 Data collection

To design the questionnaire and collect data took me approximately one month. After deciding the topic of the study I began to design the questionnaire. My colleagues helped me to proofread the draft questionnaire and I rewrote it for a few times and with the feedback. I revised the questionnaire to the current version. I went to the IPSC of the university from 13:00 to 15:00 every day from 5th to 9th January distributing and collecting the questionnaires. At last, there were 56 questionnaires gathered together. The quantitative data gathered from the questionnaires were typed to the software of Statistical Package for the Social Sciences (SPSS) and the statistical analysis was done by using this software.

2.4 Analysis software of SPSS

The quantitative analysis is run by SPSS with the full name of "Statistical Package for the Social Sciences", which is a combined software package that integrates data entry, sorting and analysis functions. The function of SPSS includes descriptive statistics, mean comparison, correlation analysis and so on. Because of its simple operation, SPSS for Windows has played a huge role in various fields of social science and natural science in China. This study is also applicable and it mainly uses the Mann-Whitney U Test and Spearman Correlation Test to identify the dependant and independent variables in order to find whether the differences are significant or not because they are previously widely used tests by Nunan (1992) [13], Dörnyei (2007) [9] and Connolly (2007) [11] in their discussion of quantitative methods in educational and linguistic studies.

2.5 Data analysis

Hypothesis 1: This involves comparing the comfort level of speaking English to the different regions aiming to find the different attitudes towards speaking English in terms of Chinese participants and non-Chinese participants. The variable of comfort level belongs to ordinal and the variable of different nationalities is nominal with two categories. One variable is nominal with 2 categories and the other is ordinal so the Mann-Whitney U Test is used [11].

Hypothesis 2: This involves comparing the gender and the comfort level of speaking English aiming to find the relationship between the male students and female students in terms of the comfort level of speaking English. One variable is nominal with two categories and the other is ordinal so the Mann-Whitney U Test is used [11].

Hypothesis 3: This involves comparing the educational background and the comfort level aiming to find the relationship between the postgraduate students and undergraduate students

in relation to the comfort level of speaking English. One variable is nominal with two categories and the other is ordinal so the Mann-Whitney U Test is used [11].

Hypothesis 4: This involves comparing the time spent in speaking English and the comfort level aiming to find the relationship between how much time the students spend in speaking English and how comfortable they feel in speaking English. Both of the variables are ordinal so the Spearman Correlation Test is used [11].

Hypothesis 5: This involves comparing the length time of stay and the comfort level aiming to find the relationship between the comfort level of speaking English and how long a student has been in the UK. Both of the variables are ordinal so the Spearman Correlation Test is used [11].

3 Results

3.1 Hypothesis 1

In the context of globalization to have a good command of English is more and more important due to the communications connecting the world through the English language medium. In other words, oral English is extremely important for the English learners, especially for those who are in the context of studying abroad. This can be seen from the data of the questionnaire collected in this study. 67.9 % of the participants strongly agree that speaking English is important and 23.2% of them agree that speaking English is important. 91% of the international students have realized the importance of speaking English in the study abroad context. As far as fluency is concerned the majority of the international students reported that they felt comfortable (58.9%) or very comfortable (17.9%) speaking English as shown in Table 1. Only a small minority reported that they felt uncomfortable (3.6%) or very uncomfortable (1.8%) speaking English.

Table 1. Percentages of the Participants' Self-reported Fluency of Speaking English

5-degree scale	Category	Frequency	Percent
1	Strongly uncomfortable	1	1.8
2	Uncomfortable	2	3.6
3	Neither uncomfortable nor comfortable	8	14.4
4	Comfortable	33	58.9
5	Strongly comfortable	10	17.9
Total		56	100

In order to find the different attitudes towards the fluency of speaking English between the Chinese international students and other students the participants were divided into two groups, China and Other. There is a similar tendency for the participants from China and the students from other regions in terms of the comfort level of speaking English. Chinese students (64.7%) felt comfortable or very comfortable (5.9%) speaking English in comparison to the students from other regions with the number of (55.9%) and (23.5%). The students from other regions are more confident in speaking English compared to their counterparts in China because there are more students from other regions who feel very comfortable than those from China. Only a small portion of students felt uncomfortable or very uncomfortable in terms of the comparison between China and Other from the data collected. Compared to the students from other regions

(2.9%), Chinese students (5.9%) felt uncomfortable speaking English. There are more Chinese international students (23.5%) have a neutral view towards speaking English than other students (8.8%).

3.2 Hypothesis 2

To determine the relationship between the two variables of ethnic group and the self-reported comfort level, the Mann-Whitney Test was used. The nature of the differences of the self-reported fluency between China and Other can be seen from the mean ranks shown in the statistics result (See Table 2). China has a lower mean rank (20.94) than Other (28.53), this indicates that the participants from China have a higher comforts level than the other participants. In order to find whether this difference is statistically significant Mann-Whitney U Value (203.000) was taken into consideration. Usually this statistic is changed into a Z score (-1.935) in the statistics. Another important aspect is to calculate the effect size, in this case, r (0.027). The last important value is p (0.053).

Table 2. Relationship between the Ethnic Background and Oral English Fluency

		Ranks		
	Country	Number	Mean Rank	Sum of Ranks
Comfort	China	17	20.94	356.00
	Other	34	28.53	970.00
	Total	51		
		Test Statistics^a		
		Comfort Degree		
	Mann-Whitney U	203.000		
	Wilcoxon W	356.000		
	Z	-1.935		
	Asymp. Sig. (2-tailed)	0.053		
	r	0.027		

a. Grouping Variable: Country

The differences were not found between the Chinese international students and other students from the above important values concerning the self-reported oral English fluency. There is no positive relationship between the ethnic groups in terms of the self-reported fluency while speaking English ($r=0.027$, $N=51$, $P>0.01$). As a result, the first hypothesis, there is a difference of the comfort level of speaking English between Chinese participants and non-Chinese students, is a null hypothesis. Similarly, in the next section the Mann-Whitney Test was used to find the relationship between the gender and the self-reported fluency of speaking English. From the frequencies of gender in Output, we can see that there are female students (24%) and male students (35%) who feel comfortable when they speak English, the same number of the female and male students (9%) who feel strongly comfortable when they speak English and the same number of female and male students (7%) who hold the neutral attitude towards speaking English and only female students (5%) feel uncomfortable and none male students are found in this category.

3.3 Hypothesis 3

In order to test the relationship between gender and the comfort level of speaking English the Mann-Whitney Test was used. The differences in the comfort level between the female students and male students can be seen from the mean ranks of the two groups, 25.44 and 30.13 respectively. This indicates the comfort level of female international students is higher than the male international students. To know the nature of the differences more values should be considered, such as Mann-Whitney U value (311.000), Z (-1.214), r (0.164) and p (0.225). In this case, there is no relationship in the comfort level of speaking English between the female and male international students according to the statistics ($r=0.164$, $N=55$, $P>0.01$) as shown in Table 3.

Table 3. Relationship between Gender and Oral English Fluency

		Ranks		
	Gender	Number	Mean Rank	Sum of Ranks
Comfort	Female	25	25.44	636.00
	Male	30	30.13	904.00
	Total	55		
		Test Statistics^b		
		Comfort Degree		
	Mann-Whitney U	311.000		
	Wilcoxon W	636.000		
	Z	-1.214		
	Asymp. Sig. (2-tailed)	0.225		
	r	0.164		
b. Grouping Variable: Gender				

So, the hypothesis 3, there is a difference in the comfort level between male and female international students in speaking English, is a null hypothesis. In the same way, the Mann-Whitney Test was used in the following discussion in order to know the relationship between the educational background and self-reported English speaking fluency. From the frequencies of educational background, it can be seen that undergraduate participants (32%) feel comfortable when they speak English and postgraduate participants (27%) feel the same way. There is the same number of 4 (7%) for both groups, have the neutral attitudes towards speaking English neither comfortable nor uncomfortable. There are more postgraduate international students (11%) feel strongly comfortable than the undergraduate (7%) when they speak English.

3.4 Hypothesis 4

In order to test the relationship between educational background and the comfort level of speaking English the Mann-Whitney Test was used. The differences in the comfort level between the undergraduate international students and postgraduate international students can be seen from the mean ranks of the two groups, 28.21 and 28.79 respectively. This indicates the comfort level of undergraduate international students is almost the same as the postgraduate international students. To know the nature of the differences more values should be considered, such as Mann-Whitney U value (384.000), Z (-0.148), r (0.0197) and p (0.883) in Table 4. In this case, there is no relationship in the comfort level of speaking English

between the undergraduate and postgraduate international students according to the statistics ($r=0.0197$, $N=56$, $P>0.01$). So, the Hypothesis 4, there is a difference between the postgraduate international students and undergraduate international students in relation to the comfort level in speaking English, is a null hypothesis.

Table 4. Relationship between Educational Background and Oral English Fluency

		Ranks		
	Education	Number	Mean Rank	Sum of Ranks
Comfort	Undergraduate	28	28.21	790.00
	Postgraduate	28	28.79	806.00
	Total	56		
		Test Statistics^c		
		Comfort Degree		
	Mann-Whitney U	384.000		
	Wilcoxon W	790.000		
	Z	-.148		
	Asymp. Sig. (2-tailed)	0.883		
	r	0.0197		
c. Grouping Variable: Education				

In the next section the relationship between the time spent in speaking English per day and the comforts level of speaking English will be discussed by the application of the Spearman test (See Table 5). As far as the time that participants spent in speaking English every day is concerned, the range varies from 15 minutes to 1260 minutes as seen in the data. Among them, there are 4 students (9%) who spent 20 minutes, 6 students (11%) about 30 minutes and 8 students (15%) about 60 minutes and 4 students (9%) about 120 minutes, 2 (4.5%) students about 200 minutes and 3 (5.5) students about 240 minutes, 4 (9%) students about 300 minutes, 9 (16%) students about 600 minutes. Connolly (2007) thinks that “the mean, which tells us where the middle point of the distribution is, and the standard deviation, which tells us how spread the bell-shaped curve is” (p.48). The descriptive statistics of how much time spent in speaking English includes the Mean (311.45) and Std. Deviation (295.962) of the time spent in speaking English that affect the participants’ self-reported oral English fluency level.

3.5 Hypothesis 5

To determine the relationship between how much time spent in speaking English and the self-reported oral fluency, the Spearman Test was used. The correlation coefficient (“0.356”) and the statistical significance of this ($p=0.008$) were derived. The percentages of variance by the variables were calculated. A moderately strong positive relationship was found between the time spent every day and the self-reported fluency level ($r=0.356$, $N=55$, $p<0.01$). The statistics show that the time spent and comfort level in the sample share 12.8 percent of their variation in common. From the statistic it can be seen that the Hypothesis 5, there is a relationship between how much time the international students spent in speaking English and how comfortable they feel speaking English, is an alternative hypothesis. The result shows that the more time the students spent the more comfortable they feel in speaking English. In the following section, similarly, the relationship between the length time of staying in the UK and the self-reported English speaking fluency will be addressed by using Spearman Test.

Among the participants 33 of them (58.9%) have been in UK for less than 1 year; 7 of them (12.5%) 1 year; 6 of them (10.7%) 2 years; 5 of them (8.9%) 3 years; 4 of them (7.1%) 4 years; only 1 of them (1.8%) above 5 years and none of them 5 years as seen in the data. As the comfort level is concerned there are 21 (37.5%) who has been in UK for less than a year feel comfortable and 5 of them (10%) feel strongly comfortable and other information can be seen from the Frequencies of Time of Stay in the UK.

Table 5. Correlation between Time Spent in Speaking English and Oral English Fluency

Descriptive Statistics			
Category	Number	Mean	Std. Deviation
How much time spent	55	311.45	295.962
How long time stay	55	2.00	1.477
Comfort degree	55	3.98	.884
Spearman Test Statistics^d			
Comfort Degree			
Correlation Coefficient	-.148		
Sig. (2-tailed)	.008		
d. Grouping Variable: How much time spent			
Spearman Test Statistics^e			
Comfort Degree			
Correlation Coefficient	1.000		
Sig. (2-tailed)	.897		
e. Grouping Variable: How long time stay			
Spearman Test Statistics^f			
Comfort Degree			
Correlation Coefficient	-.018		
Sig. (2-tailed)	.356		
f. Grouping Variable: Comfort			

From the Descriptive Statistics in the above Table 5 we can see that the Mean (2.00) and the Std. Deviation (1.477) for the relationship between the comfort level of speaking English and the time spent in staying in the UK. For further connections the Spearman Test was used. The correlation coefficient (-0.018) and the statistical significance of this ($p=0.897$) were derived from the Table 5. The percentages of variance by the variables were calculated. A negative relationship was found between the length time of stay and the self-reported fluency level ($r=-0.018$, $N=55$, $p>0.01$).

The statistics show that the time spent in staying in the UK and comfort level in the sample share 0.03 percent of their variation in common. As a result it can be seen that the hypothesis 5, there is no different attitude towards the comfort level of speaking English in terms of the length of time the international students have been in the UK, is a null hypothesis. The result shows that there is no significant relationship between the comfort level in speaking English and the time spent in staying in the UK.

4 Discussions

The first hypothesis is to examine the relationship between the ethnicity and the self-reported fluency level of speaking English. As mentioned in the literature review, both Segalowitz (et al., 2008) and Derwing (et al., 2008) pointed out the influence of the ethnic group on the English performance in speaking fluency in the study abroad context. It was found that the Mandarin speakers performed worse than the non-Mandarin speakers in regard to progress in oral English due to the less exposure to the English community [14]. In contrast, I did not find significance relationship between the Chinese and non-Chinese participants in terms of the self-reported fluency in speaking English. One of the reasons is the subjective perceptions of the self-reported fluency in lack of the measurement and instrument for assessing the actual speaking competence. Another reason I think may be due to the small and convenient samples, which are not big and representative enough.

The second hypothesis is to test whether there is a relationship between the gender and self-reported fluency level of speaking English or not. Generally speaking the female have more advantages in oral work than the males. There are contradictory views about the effect of gender on the comfort level of speaking English because researchers reported different findings. Yeh and Inose (2003) reported that the female students' fluency level was better than male students [15] but Kempler (1998) found that male students made more progress in oral English than female students [16]. My findings were that there were no significant differences between the gender and the self-reported fluency level of speaking English although the women's self-reported comfort level was a little bit higher than the men's.

The third hypothesis is whether the educational background affects the comfort level of speaking English. Yu (2010) discovered that the higher the educational background the more positive attitudes towards English that the Chinese college students have [17]. Bruckle and Rocha (2004) found that there was a significant difference in speaking fluency "between groups with less and more than 8 years of education"(p.1774) [18]. Kempler (et al., 1998) discussed that for the non-native speakers the higher the educational level is the higher the verbal fluency is. But from the statistics I collected no difference was observed between the undergraduate and postgraduate international students in terms of fluency level of speaking English [16].

The fourth hypothesis is to investigate the relationship between the time spent in speaking English and the oral English fluency. Hakuta (2000) reported that for ESL students, the oral proficiency needs 3 to 5 years to develop and academic English proficiency can take 4 to 7 years [19]. There was no specific time that I could find in order to speak English fluently in the literature. In my study, there is a significant relationship between the time spent in practising oral English and the self-reported speaking fluency. The more time spent the higher the fluency level is in speaking English. The more practice the more comfortable the international students feel communicating in English. In other words, the time needs to be spent in speaking English is about 311 minutes per day in order to acquire English oral proficiency in the study abroad context according to the mean value mentioned in results.

The fifth hypothesis is to explore whether the length of time of staying in the UK affects the self-reported fluency of speaking English or not. Generally speaking, the fluent speaking English requires the proceduralization of the linguistic knowledge in an effortless manner and

automatization through practice according to Segalowitz (2000, 2003) (Cited in Mora and Valls-Ferrer, 2012) [2]. In a sense the English learners can have both in the context of studying abroad by large exposure and practice to the language environment. As pointed out by Llanes and Munoz (2009) many studies found that there were gains in fluency for students who have the experience of study abroad in terms of the length time spent [20].

In my study, on the contrary, significant differences between length time of staying abroad and the self-reported fluency in speaking English were not found. As a result, there was no significant relationship between the length time of stay in the UK and oral English fluency. The reasons for this result is probably the imbalance of the distribution of the samples, because there are 31 (57%) who have been abroad below one year and 7 (13%) about 1 year, 6 (11%) 2 years, 5 (9%) 3 years, 4 (7%) 4 years and 1 (2%) above 5 years as seen in the frequencies of the time of stay in the UK, which can be seen in Output. Another reason is probably the subjective perceptions of their speaking ability regarding the fluency and comfort level of speaking English. Accurate measurement of fluency was not used, such as “syllables per minute, other language word ratio, filled pauses per minute, silent pauses per minute, articulation rate, and length of the longest fluent run, etc.” according to Llanes and Munoz (2009, p.353) [20] .

5 Conclusion

Generally speaking, many international students are interested in speaking English with the awareness of the importance and the challenges of speaking English and majority of them feel comfortable when they communicate in English. There are many factors that influence the English learners' attitudes towards speaking English such as the ethnicity, gender, educational background, time spent in speaking English, length of time of stay in the host country, etc. However, in my study, some factors that affect English learners' attitudes towards speaking English do not play a role. From the results of the questionnaire it can be seen that the distribution of comfort level of speaking English is the same in terms of the different variables such as ethnicity, gender, educational background, the length time of stay in the UK.

But there is one particular variable that does definitely affect the students' perception of oral English fluency, which is the time spent in speaking English every day by the participants. This is in accordance with the open-up Question 12, which asked participants about their advice on improving spoken English. The result suggests “speak more English with English (native) speakers” if the words and phrases are put together from the most-frequently-used list. Just as Norton and Toohey (2001) mentions that the English fluency level depends on how much time spent [21]. This finding was also supported by the study of Zhang (et. al, 2004), Suzuki and Kormos (2020), stating that the chances of practicing English and the English Language environment are two prominent factors that influence Chinese college oral English fluency [22][23]. For the future study, it will be interesting to identify whether the attitudes towards speaking English such as the perception of difficulty, importance and enjoyment affect the oral English fluency or not.

In summary, the factors such as ethnicity, gender, educational background, the length time of staying abroad do not affect international students' self-reported oral English fluency, but how much time spent in speaking English every day does. The more practice in speaking English

every day the more comfortable the international students feel speaking English. It is safe to suggest that the time needs to practise oral English is 311 minutes every day and it takes about 2 years to stay in the English speaking country from the data of the survey filled out by international students from 21 regions of the world in a UK university. In the future study it will be interesting to investigate the relationship between the self-reported fluency of speaking English and fluency test report of speaking English and examine other factors that may affect the English oral fluency in the study abroad context, such as social network and engagement in the communities.

Acknowledgments.Sponsored by 2022 Zhejiang Provincial Ideological and Political Teaching Project Construction of “Ideological and Political Demonstration Course of American Literature”, 2022 Huzhou University “Four New” Education and Teaching Reform Research Project of “Construction of the Smart Classroom of American Literature in the Context of Digital Education” (No: JG202229); 2022 Huzhou University Undergraduate Online Course Construction Project of “Online Teaching Reform of American Literature Course”.

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