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Investigating the Relationships between Students' English Proficiency Level and their Abilities to Distinguish Different Accents

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Abstract

English proficiency level will have some influences on students' abilities to distinguish different accents. To investigate their relationships, this study utilized a statistical experiment to measure the relationships between English proficiency and the ability to distinguish different varieties of English by offering a test consisting of 10 multiple-choice questions. Among these questions, this study asks the two speakers who use English to speak 10 seconds in each of the sound clips whether they come from the same country and 1 question asks the English proficiency level of the participants. The experiment controlled the variable of the participants' identity for avoiding this variable as a factor that may affect the experiment result, and all the participants were Chinese. When collecting data, 138 participants were involved in the experiment, and 116 pieces of data were selected as valid data and used in the later statistical analysis. Through directly linking the score of the test to the participant's ability to distinguish different varieties of English, there was a positive correlation between English proficiency and the ability to distinguish different types of English, in which the higher the English proficiency, the better the ability to distinguish different varieties of English. What's more, a formula of score=5.113+0.479*. English proficiency was given after a series of statistical analyses. This study will have a future educational implication for the field to concern more about students' foundation on English level for having better academic outcomes.

Keywords

English Proficiency Level; Accents; Statistical Analysis.

1. Introduction

The backdrop of the study was the finding that musical training helps one distinguish lexical tones in a foreign language, and the main research question is about whether English proficiency helps one distinguish non-tone-based phonological aspects of a foreign language. Studying whether one's English proficiency can affect his ability to distinguish phonological aspects of a foreign language can have an inspirational effect on education, especially on the English level test. In this case, the examiner may add questions about distinguishing different varieties of English to test a student's English level, which may have a more accurate and equitable effect. If teachers' pay more attention to students' English proficiency level before class, they are more likely to know about students' foundation and use appropriate teaching methods. Therefore, it is essential to explore the relationships between students' English proficiency levels and their learning outcomes.

This organization of the article is as below: it will contain 3 main sections including literature review, background information and set up of the experiment, and the result and discussion. In the literature review part, the article will mainly talk about several previous studies that are

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related to this study including the level of relationship between people's self-assessment and their actual ability, factors of the ability to distinguish native and non-native accents, different attitude toward varieties of accents. In the background information part, this article will illustrate how the study had set up, the method used in the experiment, and the types of participants include in the study. And finally in the result and discussion part, this paper will demonstrate the quantitative relationship between English proficiency and the ability to distinguish different varieties of English. The paper will also analyze the advantages and the drawbacks of the software used in the study to do the statistical analysis.

2. Literature Review

In terms of the relationships between English proficiency levels and students' performance, there are several relevant previous studies. For example, Denies and Janssen have found a positive correlation between self-assessed ability and students' actual language proficiency, which discusses the self-assessments of over 22500 students on a set of twelve can-do statements that are taken from the Common European Framework of Reference [1]. And a four-level mixed-effects logistic regression analysis shows the positive correlations between proficiency and the probability of endorsing the can-do statements. This provides the foundation for this study in which the assessing level of the English proficiency given by people who answer the questionnaire can reflect their actual English proficiency [1].

There is another study about distinguishing native and non-native speakers' accents. According to the study led by Ballard and Winke, non-native speakers can distinguish between native and non-native accents but are unable to identify a speaker's accent [2]. This study also shows similar results with students who assessed themselves as below the native speaker level often failed to identify various regional accents. However, Alford and other scholars found that the judgments of different regional American accents differed along the lines of English ability, with more advanced speakers discerning the differences between different accents more clearly [3]. This suggests that there should be a clear correspondence between the score on the survey distributed in my survey and the self-assessed level of competence in English.

In addition, students' attitudes towards accents might be different as well. Butler found that students' attitudes towards different accents would differ significantly based on the perceptions of native and non-native accents, which were in turn based on clarity and the ease of understanding [4]. This might affect my study as students' identification of certain regional accents, including American English, British English, Scottish English, Indian English, and Nigerian English, which may be influenced by how easy it is to understand for non-native speakers.

3. Research Method

3.1. The Division of English Proficiency Level

There are several previous criteria to divide English proficiency, including The Common European Framework of Reference for Languages (CEFR), Canadian Language Benchmarks (CLB) and interagency Language Roundtable (ILR), which are three core criteria that are popular among the world.

According to Çaataya and Gürocakb, CEFR uses approach that is socio-cognitive and action-oriented based [5]. Language learning has been broadly seen as an active, systematized, explicit and life-long process. The framework includes six ascending levels of proficiency namely: Breakthrough (A1), Waystage (A2), Threshold (B1), Vantage (B2), Effective Operational Proficiency (C1) and Mastery (C2) [5]. Language use and language learning explicitly, comprehensively but not exhaustively explain each level. CEFR involves two essential sections:

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shared reference levels and a descriptive scheme. To meet the demands of language users, instructors, curriculum authors, and assessors, the descriptors of 34 subscales of skills are simple, explicit, and actively draught.

According to Senior, the Canadian language benchmarks (CLB) are twelve benchmarks in three stages that describe language proficiency from the very beginning to advanced levels of proficiency [6]. The CLB was created to solve problems. However, the employment and economic needs, the broader use of CLB with other types of programming, and the increase in higher-level and targeted language training have led to the standard becoming more widely used in various second language settings[6].

The Federal Interagency Language Roundtable Language Proficiency Skill Level Descriptions (the ILR scale) is used by the National Language Service Corps (NLSC) as the basis for charter membership determination in speaking, reading, writing, and listening [7], which is different from CLB. The NLSC requires candidates to achieve ILR Level 3 in English and foreign languages in speaking, reading, writing and listening. Every NLSC applicant must answer a series of language self-assessment questions, which includes an initial screening of four communication skills and English as second language ability. These self-assessments reflect an applicant's level on the ILR scale, reducing the overall formal testing need by obviating the need to test for those whose self-assessment levels fall below the NLSC standards.

3.2. Research Procedure

This study conducted an experiment about the correlations between participants' English proficiency levels and academic achievements. The experiment included ten pairs of clips in which the speakers talked about different kinds of English, and the test was provided to people to see whether they could correctly distinguish the difference. Firstly, the ten pairs of clips included sounds from different varieties of English, including North American English, standard British English, Indian English, Scottish English and Nigerian English. Five pairs were English from the same area, and the other half were English from a different variety. To avoid the result of those people who answer these questions being affected by the degree of difficulty of each question itself, the appearing order of the ten pairs of question were randomized. The study considered gender, age, and English proficiency as the variables that may influence the experiment result. To distinguish people's English proficiency, people are asked to score their own English proficiency with four levels of English proficiency, each with a clear objective description of English ability, including four various levels: 1) I cannot understand English; 2). I know some simple English words, but cannot read or speak in English; 3)I can understand simple English dialogs and talk about daily stuff in English; 4)I have no problem doing English reading, listening, writing and speaking.

A program called questionnaire star in Wechat (a social software in China) was used to distribute the questionnaire. Because of its capacity to reach a huge number of individuals in a short amount of time, this software was adopted. We sent this questionnaire to people around us, including high school students, parents, and foreigners.

4. Result and Discussion

As a result, a total of 138 people finished the questionnaire. After screening based on the amount of time each person used on completing the questionnaire, this study left 116 samples, and calculated each person's score based on their correct rates of the ten questions, in which correctly answering 1 question will get one point and getting 10points means having a full score. Then we divided the score into three groups, in which scores 0 to 5 belonged to group 1, cut 6-7 belonged to group2, and score 8-10 belonged to group3.

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Table 1. Linear Regression Analysis Results

	Std. B.	t	p	view	Adj-ust R2	F
Constant	—	10.518	0.000	—	0.066	F (1, 114) =9.137, p=0.003
English proficiency	0.272	3.023	0.003	1.00		

D-W value:1.967

Dependent variable: Students' score

According to Table 1, this study uses correlation analysis to study the relationships between English proficiency and students' score and use the Pearson correlation coefficient to demonstrate the strength of the correlation. This study found that the correlation coefficient value between English proficiency and score was 0.272. It suggested that there was a strong positive link between English proficiency and students' scores since it was significant at the 0.001 level.

Given that this experiment data involves quantitative data, and it runs a linear regression analysis, which was based on the correlation analysis, to find the exact relationship between students' English proficiency and their score. Through linear regression analysis, the model formula is score=5.113+0.479*English proficiency, and the R-square value of the model is 0.074, indicating that English proficiency can explain 7.4 percent of the change in score changes cause. The regression coefficient value of English proficiency is 0.479 (t=3.023, p=0.0030.01) in the final particular analysis, indicating that English proficiency will have a considerable positive impact on the score.

Table 2. Chi-square analysis result

Title	**English proficiency**				
	1.0	2.0	3.0	4.0	Total
score	2(40.00)	12(41.38)	10(20.41)	1(3.03)	25(21.55)
	3(60.00)	13(44.83)	25(51.02)	24(72.73)	65(56.03)
	0(0.00)	4(13.79)	14(28.57)	8(24.24)	26(22.41)
total	5	29	49	33	116

This study also runs a Chi-square test between English proficiency and the score is given that chi-square test and linear regression analysis together form a double demonstrate to our experiment result and that our experiment data also involves qualitative data including the four levels of English proficiency as well as three levels of score in which score 0 to 5 belongs to lowest level score, score 6-7 belongs to intermediate level score, score 8-10 belongs to upper-level score. It was found that P = 0.01, meaning there was a significance between English proficiency and the score. The proportion of first-level English proficiency to choose the first-level score is 40.00 percent, clearly greater than the average level of 21.55 percent, as shown by the percentage comparison difference. When it came to second-level English competence, 41.38 percent preferred the first-level score, which was much higher than the average of 21.55 percent. The proportion of people who chose the third-level English proficiency score was 28.57 percent, which was significantly higher than the average level of 22.41 percent. However, 72.73% of students choose the second level score for the fourth grade English proficiency, which has a significantly larger numerical value than the average level of 56.03%. From this, it can be concluded that English proficiency samples of different levels have significant differences in all scores.

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SPSS is a software for a statistical experiment. Except for a few actions that need keyboard input, such as data entry and some order programs, most operations can be completed by dragging the mouse and clicking "menu," "button," and "dialog box." SPSS has a very powerful function that incorporates all aspects of data input, editing, statistical analysis, reporting, and graphic creation. It is worth mentioning that SPSS involves statistical description, contingency table analysis, a total of 11 types, and more than 130 functions, which can help users to define more complicated statistical models. SPSS provides from simple statistical description to complex multi-factor statistical analysis methods, such as rank correlation, exploratory data analysis, two-dimensional correlation, partial correlation, analysis of variance, multivariate Regression, survival analysis, cluster analysis, nonlinear regression, logistic regression, etc. SPSS can also read and output files in a variety of formats. For example, when we need to output files like *.dbf files generated by dBASE, ASCII, FoxPRO, or FoxBASE, softwares like excel can be hard to export . Additionally, Excel *.xls files can be transferred to SPSS data files for investigation. SPSS graphics can also be converted into seven different types of graphics files. The output can be saved in *.txt or HTML format. In addition, according to Brian W. Ward, Students can learn fundamental database operations and statistical methods more readily with SPSS because they don't have to master the software's programming language. [8]. When the aim of the course is to develop statistical and methodological abilities rather than a primary focus on computer software, using SPSS can avoid the need to spend more instructive hours learning a computer programming language.

Admittedly, using SPSS for data analysis also has some limitations when compared with other tools. For example, compared to Excel, according to Denise Pan and Gabrielle Wiersma ,when calculating the standard deviation of a set of data, it needs to involve seven steps such as finding the mean, dispersion, squared deviation, sum of squared deviations, mean-sum of squared deviations, and the root of the sum of squared mean deviations [9]. Then, each step is placed in a row (or column) in the excel, SPSS does not support users to solve step by step. Hence, when using it for statistical analysis, it may ignore an important condition due to the use of the default settings in SPSS, which may further lead to the error of the result. SPSS can not carry out creative applications because it seldom allows users to write programs flexibly and independently. According to Anne Permaloff and Carl Grafton, SPSS format control is very complex, and it is only worth a long time to learn it if the formatting requirements and output volume are significant [10]. However, since format control is part of the core program, this does not affect rental or purchase decisions. But on the other hand, it is convenient for beginners of statistical experiments.

5. Conclusion

To sum up, this is a statistical experiment to evaluate the relationships between students' English proficiency Level and their abilities to distinguish different accents. This experiment mainly found a positive correlation between students' English proficiency Level and their abilities to distinguish different accents ($F = 9.137$, $p = 0.000$). In terms of methodology, the correlation between students' English proficiency Level and their abilities to distinguish different accents were investigated using linear regression analysis and chi-square analysis. This allowed evaluating different aspects of the relationships between the variables. This study can be beneficial to students, as they can gain more awareness of their English proficiency level. It will also be helpful for teachers to pay more attention to students' English proficiency before teaching courses. Lastly, it might also inspire examiners who are more likely to design more suitable and equitable tests. Therefore, this paper has high educational inspirations and significance.

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References

[1] D. Katrijn, & J. Rianne, (2016). Country and Gender Differences in the Functioning of CEFR-Based Can-Do Statements as a Tool for Self-Assessing English Proficiency, Language Assessment Quarterly,13:3,251-276, DOI: 10.1080/15434303.2016.1212055

[2] L.Ballard., & W.Paula (2017). "Students' Attitudes Towards English Teachers' Accents: The Interplay of Accent Familiarity, Comprehensibility, Intelligibility, Perceived Native Speaker Status, and Acceptability as a Teacher." In Second Language Pronunciation Assessment: Interdisciplinary Perspectives, edited by Talia Isaacs and Pavel Trofimovich, 107:121–40. Multilingual Matters / Channel View Publications.

[3] R.L.Alford., & J.B. Strother., (1990). Attitudes of Native and Nonnative Speakers toward Selected Regional Accents of U.S. English. TESOL Quarterly, 24(3), 479–495.

[4] Y.G.Butler., (2007). How Are Nonnative-English-Speaking Teachers Perceived by Young Learners? TESOL Quarterly, 41(4), 731–755.

[5] S. Çaataya, F.Ünveren Gürocakb. Is CEFR Really over there? International Conference on Teaching and Learning English as an Additional Language, GlobELT 2016, 14-17 April 2016, Antalya, Turkey.

[6] A. Senior., (2017). Teaching and Assessment: Using the CLB in a Range of Contexts under the Stewardship of the Centre for Canadian Language Benchmarks. In M. Jezak (Ed.), Language is the Key: The Canadian Language Benchmarks Model (pp. 71–88). University of Ottawa Press.

[7] C. W. Stansfield., J. Gao., & W.P.Rivers, (2010). A Concurrent Validity Study of Self-Assessments and the Federal Interagency Language Roundtable Oral Proficiency Interview. Russian Language Journal / Русский Язык, 60, 299–315.

[8] B.W.Ward, (2013). What's Better—R, SAS, SPSS, or Stata ? Thoughts Instructors of Statistics and Research Methods Courses. Journal of Applied Social Science, 7(1), 115–120.

[9] D.Pan., & G.Wiersma, (2014). Excelling with Excel: Advanced Excel Functions for Collection Analysis. In B. R. Bernhardt, L. H. Hinds, & K. P. Strauch (Eds.), Too Much is Not Enough: Charleston Conference Proceedings, 2013 (pp. 576–583). Purdue University Press.

[10] A.Permaloff., & C.Grafton., (1988). Top of the Line: SPSS, SAS, and SYSTAT. PS: Political Science and Politics, 21(3), 657–666.