

Analysis Of The Correlation Between Gender Difference And College English Test Scores

Fangfang Duan

Lijiang Teachers College, Lijiang Yunnan, 674199, China

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Abstract: College English Test is a crucial national exam for all college students in China, which are held twice a year. In 2019, the students attending the exam in December had reached 9.26 million. Given its universality and significance, it is essential to explore the elements resulting in the differences in students' language acquiring scores. The article analyzed the correlation between gender differences and college students' CET-4 scores, the main factors contributing to students' score differences and strategies for teachers to improve students' learning efficiency. As quantitative research, the study had taken 804 college students from Lijiang teachers' college as subjects through a survey questionnaire. By analyzing the data with T-test, the outcomes revealed that gender differences and CET-4 scores are tightly correlated; and the average CET-4 score of females was higher than males; also, the differences of males' English scores were much greater than females'; furthermore, the CET-4 scores of females was significantly higher than those of males. Therefore, the study suggests teachers should focus on students' gender differences in their English teaching; endeavor to make full use of gender differences to stimulate students' motivation; overcome gender prejudices and intensify the related researches to promote students' learning efficiency.

1. Introduction

Since the official implementation of College English Test 4(CET-4) in 1987, the national standardized test, known as the first single-subject scale in the world, has exerted huge impact on students, teachers, schools and even society (Bai, 2010). Many colleges and universities correlate CET-4 scores with students' degree certificates. Undergraduates are required to pass the CET-4 examination to obtain bachelor's degree (Zhang, 2005). Therefore, the CET-4 test can be regarded as a "high-risk test" in which scores will have direct effects on individuals or groups.

In the late 1980, the study of gender differences had absorbed more researchers' concentration around the world. However, most of the studies focus on the gender difference in mathematics, physics and other natural subjects; few were involved in English learning. Since 2000, many western psychologists and applied linguists have attached great importance to the study of foreign language learning subjects, focusing on exploring learners' differences, such as age, motivation, language potential, cognitive style, learning strategy, personality, gender, factors directly related to foreign language learning or English test scores, etc.

1.1. Related studies abroad

Nowadays, researchers around the world have made many debates on gender differences in learning, assimilating, and achieving scores in foreign language acquisition. Lietz (2004) and Rosén (2001) concluded that there were gender gap in many countries around the world, and females had better learning abilities than males. Halpern (2002) provided abundant proof that disparities between males' and females' psychological status can somewhat be interpreted by disparate hormonal constitutions. Pae (2004) found that girls showed better than boys in English foreign language (EFL) learning, especially in reading comprehension. Meanwhile, Saville-Troike (2005) stated that "there is prevalent conviction in other nations that girls are inclined to excel in foreign language acquisition than boys"(p.90).

1.2. Related studies in China

Wen (1994) found that gender differences and English scores are not obviously correlated; however, Liu & Wu (2000) showed that among English majors, female students did much better in English learning than males. Moreover, Zhang & Du (2004) stated that there was significant correlation between gender differences and achievement. Jiang & Chen (2013) concluded that there were significant differences between boys and girls in cognitive vocabulary, applied vocabulary and grades of CET-4, and girls were superior to boys in both vocabulary and scores of CET-4, which indicated university girls had advantages in second language learning than boys.

Nevertheless, in the foreign context, though there was a multitude of researchers conducting studies about gender differences in acquiring, using and the strategies of learning languages, they seldom connect gender dissimilarities with students' scores. Despite the studies concerning the relationship between gender differences and test scores in China, researchers have not reached a consensus on whether gender differences and English scores were obviously correlated, and most of the studies took university students as subjects, college students were rarely involved.

Given this, more empirical studies should be conducted in foreign language teaching, learning, and students' performance in exams. In view of this, this paper tried to determine the relationship between gender difference and CET-4 grades from college language learning perspective to boost teachers' teaching method, improve students' scores and enhance their college English learning efficiency.

1.3. Research questions

Q1: Is gender difference correlated with CET-4 scores? Are females' CET-4 scores higher than males'? Are CET-4 scores in males greater than in females?

Q2: What are the factors contributing to the current results between boys and girls?

Q3: What teaching strategies can be proposed to improve students' learning efficiency based on the differences shown by girls and boys?

1.4. Theoretical framework: gender roles in sociology

Gender difference is regarded as "different genders employing the different methods of confronting and coping with the same problem in identical social settings". Disparities between people's outlook of life, world and values can also be interpreted by gender difference. It is generally considered that human beings' gender role is a kind of social role. Liu and Ding (2008) mentioned that "the social role was a behavioral pattern, which partly is decided by social classes aligning with societal expectation. It is a manifestation of a variety of social properties or societal connections of human beings, and a societal cell that constitutes a social group or social organization" (p.82-83). Being a category of societal parts, gender role means the qualities that meet the expectations of the society due to their dissimilar sexes, covering the dissimilar traits, outlooks, and societal behavioral models of men and women. The concept of gender role has something in common from the perspective of psychology and sociology, that is, it is considered that gender role was formed under the influence of family, school and social environment, which conforms to the specific personality and behavior.

2. Methodology

2.1. Research subjects

According to Liu (2013), the ratio of males to females in Normal Universities or Colleges in China had reached at least 1:3, some even as high as 1:12. Due to the particularity of Lijiang Teachers Colleges (LTC), 806 participants have been involved in the study by random sampling, including 60 males and 746 females. All the subjects had taken CET-4 examination before the survey.

2.2. Data collection

The researcher sought help partially from teachers in charge of Exams in LTC and partially from teachers teaching College English. Coordination was made with the concerned teachers regarding the distribution of the online questions (Lee, 2014, p.72). The online questionnaire was first shared to QQ group with all class monitors included, then college English teachers and class monitors shared the link in their QQ group. The students answered the 29 questions voluntarily within 10 minutes; some of the questions had been designed for the further study of students' performance in exams. A total of 887 questionnaires were retrieved online after a week; only 806 are valid, the other 81 forgot their CET grade, which directly affected the study in question.

2.3. Data analysis

The study used CET-4 scores as its data, which were then analyzed by the social science statistical analysis software SPSS 24.0 offering accurate and straightforward results. The results were divided into three parts: firstly the data were classified according to different genders; secondly the correlation between sex differences and students' grades was analyzed by T-test, and then respectively retrieving the total scores of CET-4 in boys' and girls' to compare the differences.

3. Result and discussion

Table 1 presents the significant differences between boys and girls in total score

Table 1. Significant Differences between Boys and Girls in Total Score of CET-4

sex	case	mean	SD	Max	t	DF	P-value	Mean difference
male	60	334.25	109.0	496	-5.1	804	.00	-44.28
female	746	378.53	59.7	580				
sum	806	375.23	65.6					

A thorough and rigorous scrutinizing and analyzing of the 806 college students' scores above, it can be seen that scores of females were significantly higher than males, females with the highest score 580, while males only 496; 95.7% girls got their scores above 400, while males only 4.3% (see Figure1), the further detailed analysis would be discussed as followed:

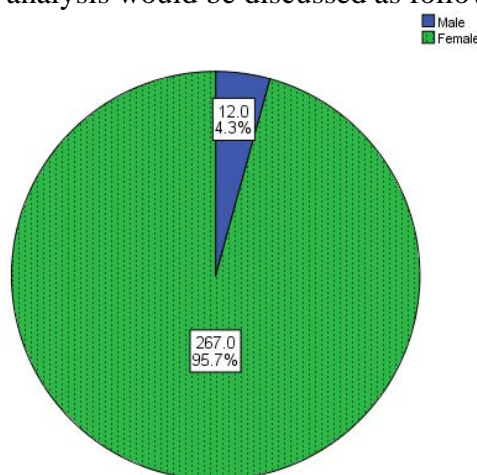


Figure 1. Males' and females' CET-4 scores above 400

3.1. The Correlations between gender difference and scores of CET-4

According to the statistical data analyzed by t-test of the independent sample, the result illustrated that gender difference had significant impacts on the performance of CET-4. As shown in Table1, the average score of boys' CET-4 were 334.25, the standard deviation was 109.0; girls' were 378.53 and 59.7. The average score revealed: 1) in terms of the total score of CET-4, the difference between males and females was significant ($t=-5.1$, $p=.00<0.01$); 2) the average scores of girls'

were higher than boys, which meant the results of females were significantly higher than males; 3) based on the standard deviation, boys' SD was greatly higher than girls, which showed the difference of CET-4 scores in boys was higher than girls.

3.2. Factors contributing to scores disparities in both sexes

The outcomes of this study have shown that under the same or similar learning surroundings or teaching conditions, scores of female students were significantly higher than males. Factors contributing to gender differences can be analyzed physiologically, intellectually, non-intellectually and socially.

Just as Anjali et al. (2010) had stated the left side of the human brain is chiefly handling speech process, which is skilled at disintegrating a task into parts or rules, and then coping with it separately, while the right hemisphere is generally responsible for managing non-verbal information and spatial tasks, and which stands out for category analysis. Physiological studies have shown that there is gender difference in the speed and level of the males' and females' cerebral hemispheres. Previous scientific experiments have shown that women are superior to males in language expression or short-term memory because they specialize in the lateral function of the left side, which develops stronger and better than men. The differences make women perform better than men in language learning and language mastery, and which lays a good foundation for females to achieve excellent language learning results. The physiological differences may partly contribute to the scores' disparities between different genders.

However, some scholars preferred to contribute the gender differences on students' scores to intellectual factors. Where perception is concerned, Patricia et al. (2013) pointed out that females' auditory ability, sound discrimination ability and positioning ability were obviously better than males. As for attention, females are more concentrated than males. Females are susceptible to the influence of teachers' feelings when they attend classes, and they can cooperate with the teachers actively. However, males' attention is weak, and they are easily distracted in class, which reduces their learning efficiency and affects the improvement of their grades. In terms of memory, females are good at mechanical and image memory than males. In the aspect of speech, females' fluency and clarity of language expression are superior to males. It can be deduced that females will benefit directly from some advantages in their intellectual development in the process of language acquisition.

In addition, some scholars not only contribute the scores of gender differences to intellectual factors but also non-intellectual factors. In all kinds of cognitive and creative activities, there are both intellectual and non-intellectual elements. After a certain development of intelligence, non-intelligence elements play a decisive role. Just as Einstein said, "interest is the best teacher", it is often a prerequisite for the road to success. The difference in interest between males and females is evident in early childhood. When analyzing the difference of CET-4 scores between male and female college students, it is found that learners' interest, will and character will directly affect their performance. Interest is the tendency for one to explore something or engage in a certain activity. As time goes by, different genders show disparities in subject interest after school. Females are more interested in liberal arts, while males are more interested in science and engineering. In long-term college English teaching, teachers also feel that the general interest of females in learning English is stronger than males, which is undoubtedly an important part of their differences in scores. As for will, the self-consciousness of females is higher than males, which is reflected in their study. They are better at planning, regulating and managing their learning behavior than males. As to character, females' character is relatively quiet, showing the character of introversion. They know foreign language learning is a long-term and arduous work; they could only achieve the desired results step by step.

Social elements likewise play a weighty part in leading to the gender disparities on students' scores. Just as Nyikos (1990) had pointed out: because of the society's preference for females in foreign language learning and their high expectations for females' language abilities, as well as the nature, females hope to be praised by the society for their excellent grades, females do indeed

achieve superior results in second language learning. For a long time, the social requirements and personality characteristics have deepened the difference unconsciously.

As far as the current situation is concerned, when given the same conditions to different sexes, males will undoubtedly be given priority, even they are less qualified than females, they may also be preferred. Therefore, the females of college students hope to make them unconquerable in the future by obtaining excellent academic achievements, especially in CET-4 and CET-6, which have attracted the attention of society. The motivation of females to learn English is more intense than males, which also plays a chief factor in leading to their gender difference.

3.3. Strategies proposed to improve students' learning efficiency

First of all, English teachers should do their utmost to arouse students' interest in English learning, to make students motivated and to mobilize their initiatives. Furthermore, most female college students have stronger motivation than boys in English learning. English teachers should cherish and make full use of the advantages, and pay more attention to attract boys' interest in learning. Furthermore, English teachers should also implement a bulk of English language practice activities outside the class to keep the English learning lively and vibrantly all the time.

There will always be gender difference in the future; teachers should not artificially expand or narrow the disparity. With the globalization of society and technology, foreign language teachers should change their stereotypes of teaching, not only teach students according to their aptitude but also considering their sex to achieve equality between different sexes in the course of teaching so that all students can acquire ideal achievement in language learning.

Conclusion

The study verifies the evident correlation between different sexes and CET-4 scores in college English learning proficiency, which was the same as Zhang & Du (2004). However, since the subjects of the survey were 806 samples from LTC among which girls accounted for overwhelming number over boys, the conclusions need to be tested in the future while teaching and learning. Simultaneously it is not the ultimate purpose of the study to achieve the statistical results of the correlation between gender disparity and test scores, but to improve students' English learning efficiency. Once teachers realize the gap between different genders in English learning, how to "teach based on gender difference" should be taken into consideration, namely, teachers should adopt different teaching strategies to bring males' and females' respective advantages into full play. It is hoped that the study will be constructive for teachers in instructing so that foreign language teachers can center on the gender difference in college English teaching.

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