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The Effect of Gender Differences on High School Students' English Reading Comprehension

Cui Yunuo[1,a,*,†], Gu Tingyan[2,†], Zhang Jinyu[3,b,†]

[1]*The Affiliated High School of Peking University ,Da Ni Wan street ,Hai Dian, China*
[2]*Department of Computing, Main University, Second Town, Country*
[3]*Lincoln High School, Portland, Oregon, United States*
a. cuiyunuo2024@i.pkuschool.edu.cn
b. jzhang8666@gmail.com
**corresponding author*
[†]*All these authors contributed equally.*

Abstract: A persistent question in academia is the impact of gender differences on reading comprehension. English reading is an important part of English teaching in senior high school and occupies the largest proportion of the college entrance examination. High School English Curriculum Standards require that reading teaching should not only improve students' reading ability but also cultivate students' ability to effectively use English reading strategies. However, the authors found that there is a big difference in the English achievement of girls and boys, and there are many problems in the application of reading strategies. Given this, the author has carried out an investigation and research in this direction. In the study, the authors dissect this problem in depth and the three areas are: gender differences affect reading comprehension and attitudes; gender differences lead to differences in critical thinking that affect reading ability, and gender differences and empathy while reading. The paper will start by comparing the experimental conclusions of some outstanding scientists and expand the analysis of the reasons behind them. Finally, the paper summarize the researchers views and conclusions on this topic from three perspectives.

Keywords: gender differences, high school students, reading comprehension

1. Introduction

Throughout the past 30 years, there has been a long-standing problem in academia which that is: some students always would have higher grades than others. Researchers want to find out the reason of how they succeed. Since the last century, many researchers have been involved in researching this topic. Among those researches, the factor of gender has been regarded as an important influencing factor, and this view has been supported by many experiments. More than ten years ago, some researchers were beginning to see clues to solving these long-standing problems: general intelligence is the most prominent predictor of academic success[1-3]. 2001 Over time, most experiments in this area also considered the role of gender. They found that, in general, girls tended to outperform boys in school [4-9]. Studies have found no significant difference in intelligence between males and females, which then suggests that it does not mean that girls are better

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than boys [10]. The finding means that factors other than intelligence can affect a student's academic performance. For example, the influence of English reading will be mentioned in this article. Or the influence of family background mentioned by Wei and Yang in their research on the influence of family education on children's learning behavior, etc.

This kind of cognitive difference's effect on academy can reflect on reading comprehension, especially the reading of literature. First, we know that some characters play important role in understanding and comprehension of articles. The study directed by Gabay Yafit and other researchers explored the relationship between empathy and language skills, the results showed that the readers with better reading ability score better in total empathy and cognitive empathy [11], which indicated that there's a positive correlation between reading abilities and empathy. At the same time, there are research discover that gender differences can greatly affect the development of emotional empathy among children and adolescents between the ages of 7 and 14. Moreover, this difference increases after children become adolescents, because women's emotional empathy has improved during the transition from childhood to adolescence, but men's ability of empathy was relevantly lower than women's and has little fluctuations [12].

However, even though the academic field has paid attention to the relationship between reading comprehension and academic ability, there are few studies focus on gender difference. Due to this research gap, the article would want to conduct this study to find want role gender differences to play in reading comprehension and help to analyze the reason behind the difference. This article will focus on three aspects: ability and attitude, critical thinking and text interaction.

2. An Analysis of Gender Differences on English Reading Comprehension

Boys and girls have different cognitive styles, in 2009, Xie came up with this point. Through his research, it can be inferred that their attitudes towards English reading are also different. Liu also confirmed this phenomenon in an article published in 2019. He found that compared with boys and girls, girls were more willing or more usual to take notes, and they were more willing to take the time to improve their reading strategies. In his research, he also found that boys were relatively passive to these behaviors [13]. Their experimental results indicate that girls are more positive in reading attitudes. Wang brought up a similar point of view in 2014, which can support the idea as well. In the survey she did, she establish that compared with boys, girls are more interested in English learning and have more diverse ways of learning English, such as reading English magazines and watching English programs or international news. According to the survey statistics on the time spent studying English by freshmen, girls spend significantly more time on English learning than boys, especially the proportion of learning time of more than one hour far exceeds that of boys. Therefore, this can help to infer that girls' interests and attitudes toward English reading are more positive than boys. The occurrence of this attitude may be caused by the influence of the general environment. In Gong's investigation, he learned that under normal circumstances, girls have an advantage in the language comprehension area of the left hemisphere, while boys not only have the normal ability of the language comprehension area in the left hemisphere, but also have a more developed motor center in the right hemisphere [14]. This means that boys have an advantage over ordinary girls in terms of balance and overall situation, and the format and content of today's reading tests are very conducive to boys' performance.

At the same time, it can be also affected by traditional thinking and the surrounding environment seems that as long as boys are better at science, this suggestion makes boys more confident and interested in science, and spends a lot more time on science, and this kind of learning. The way produces a "positive transfer" for English. Through his conclusions, it can be inferred that this is the reason why boys are relatively passive and reading scores are not as good as girls.

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In addition to interest and attitude towards English reading, the ability is also a very important factor. In 1961, Gate made a related experiment on the reading ability of men and women. In the test, he concluded by observing the vocabulary, reading speed, and comprehension of boys and girls. All the values for girls are higher than those for boys, which means that girls are better at reading than boys. Literature supporting this conclusion includes what Young and Oxford have found in 1997 about female students exceeding male students in selection strategies, self-management strategies, and repetition strategies [15-16]. Female students scored higher on translation strategies than male students. This is similar to what Bacon found that there are significant differences between boys and girls in scoring strategies, short-term strategies, self-motivation planning strategies, and self-motivation strategies. These studies all imply that girls are better at reading than boys.

Gender differences can cause the difference in the ability of critical thinking, which is important in reading comprehension. First, identifying the meaning of critical thinking, the core of critical thinking has been considered an important ability in education since the discussion about critical thinking in the 1960s. In 1962, R.H.Ennis, a famous philosopher of science proposed 12 aspects of Critical thinking which became the foundation of evaluating critical thoughts. Ennis himself believed that critical thinking is the appropriate and quick response to things people are going to do. Critical thinking also represents one's ability to propose questions on or think in different ways instead of accepting the learned content without considering whether the content is reasonable or not. It's the ability of speculation that showed your thoughts during the process of learning, which can broaden students' horizons. Overall, critical thinking's essential position made it an important factor to consider.

Researchers have been focused on how critical thinking affects student's learning process and the result was positive. The research conducted by Yan Tong studied the effect of critical thinking on academic performance of primary school students [17]. The result showed that the ability of critical thinking can help improve student's grades and give positive feedback, which showed that critical thinking has played a significant role since primary school. From the aspect of reading comprehension, an empirical study led by Hongji Li mainly researched How English reading teaching in high school has an impact on the ability of critical thinking, the researchers discovered that English reading teaching can help to cultivate the ability of critical thinking, moreover, this cultivated ability is beneficial for student's reading comprehension performance [18]. To sum up, the ability of critical thinking can greatly affect English reading comprehension, therefore, considering that male students and female students have different critical thinking abilities, gender difference would also be an influencing factor, which results in different reading comprehension abilities.

The research led by S. Andayani and other researchers focused on gender differences' effect on critical thinking. They tested the sample of 40 Biology education UM Metro and found that the male students are more critical than female students. Based on the discussion above, it's convincing that the male students' critical thinking ability allows them to keep take the suspicious attitude to view the reading materials, and always ready to propose questions. However, this doesn't mean that female student can't speculate on the learned content as male students. In this situation, the confound of gender bias needs to be considered too, because the deep-rooted gender bias is likely to have an invisible impact. From the study conducted by Jennifer W. and Robert H. Ennis, researchers proclaim that the traditional gender stereotype can reflect male bias, including discrimination toward a female in an educational setting, excluding women from scientific research projects, and that the characteristics of critical thinking are emphasized male personalities such as rationality [19]. Females can possess critical thinking just like a male, but the male bias caused they didn't receive equal opportunities just like a male. Overall, according to the result of the research, male students do have an advantage in critical thinking, but researchers can't neglect the effect caused by male bias.

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In 1980, Elizabeth A. Flynn experimented on gender and reading. However, not only did she explain the gender difference in reading comprehension, but she also analyzed the reading process and text interaction in general [20]. There were twenty-six women and twenty-six men in her experiment sample, all enrolled in a freshman composition course at Michigan Technological Universities. The students were asked to write responses to stories they heard either by summarizing, analyzing, or relating them to personal experiences.

When students of both genders were reading a passage, they all had a more submissive response because they were interacting with harder pieces of text they had not seen before. Both genders exhibited some frustration and attempted to interact with the stories, but they had a hard time stepping back from the text to make sense of it. However, it was clear that men's responses to the story often came with a more dominant voice and that women, more than men, were able to form a consistent pattern of meaning. The fact that male students tended dominance meant that they judged characters without empathizing with them and detaching themselves from the emotional content of the text, which in turn shows that female students tend to empathize more in readings. When the students were reading a passage that focused on male infatuation, many male students could not make sense of it because they were too focused on the text and revealed that they could relate to the boy's experience in the book. Many were also too judgmental. However, no female students were judgmental of the passage, and slightly less than half of them could eventually make sense of the story.

In another study about female vulnerability and defeat, Flynn once again found that male students tend to be more dominant and female students tend to make sense of the passages easier. Only one student, who was male, was overly judgmental in his reaction, but the male students overall felt less connection with this story than the previous one about male infatuation. Female students, on the other hand, felt more empathy toward the female character. They were able to interact with the texts without- out getting too engaged and losing focus on the main points of the passage

In the third study about rejuvenating powers of nature, Flynn found little evidence of domination of the text. The passage has soothed those who were anxious because of the other two texts as it was more slow-moving. Male students who rejected the two previous passages, seemed to place themselves in this text. However, just like in the other two passages, women were more likely to formulate a pattern of meaning and the interactions students have with this text are more submissive.

Because the sample size is small, the conclusions drawn from the analysis may not be universally representative. However, the general trends of this research show that male students sometimes react to disturbing stories by rejecting them or dominating them, a strategy that most women do not use. The study also suggests that women more often arrive at meaningful interpretations of stories because they take breaks from the texts more often and can examine the bigger picture and evaluate characters. Flynn herself also noticed that some male students will be over judgmental of the protagonists and be unsympathetic to vulnerable women characters. She also noticed that women are more receptive to texts and tries to not make judgments before under- standing them.

However, the study has certain limitations. The biggest limitation of the study would be gender bias which has been a substantial factor in people's life from childhood to adulthood. Society has been viewing women's image as kind, gentle and empathetic, and men's image as rational and focused on logic, this typical image is considered absolute and common by society. This kind of stereotype can cause deviation in some aspects. Like the analysis of gender differences mentioned, unlike men, women are naturally viewed as lack of rationality, which greatly limits the possibilities for women to show their ability in critical thinking, if they are neglected, their ability of critical thinking can't be evaluated accurately, therefore the relationship between gender difference and reading comprehension ability can't be concluded as a universal conclusion.

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3. Conclusions

Reading comprehension is an important skill in today's society. From a young age, students are taught to analyze passages and poems and learn to understand them. However, many studies show that in general, girls are usually better than boys at English comprehension. This allows girls to have an advantage over boys and could potentially affect their grades and their career in life. The gender difference could be due to a variety of reasons. Some researchers believe that it is due to a difference in the learning environment. This could also be due to genetics, that women can understand the language better due to their brain structure. However, most scientists attribute this difference in English comprehension to their critical thinking skills. Through Andayani's and Flynn's research, we can see that critical thinking is a big factor in reading. Male participants in the studies are more likely to be judgmental about the passages they read and take a suspicious stance toward them. This could make them less focused on understanding as they will be not as engaged in the analysis of the passage. However, there has not been a significant amount of research done on the effect of gender differences on students' English reading comprehension to reach a definitive answer as to why female students usually outperform their male counterparts when it comes to this particular category of study. As more studies are done and published in the future surrounding this topic, there could be a more definitive answer to this question.

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