

# Exploration on the Causes and Solutions of Cognitive Errors in College English Learning

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**Abstract**—There are many factors that affect the non-English majors and English learning. This paper will explore the cognitive errors that affect students' English learning and their causes in the new era. The main reasons for these errors are student misunderstandings, such as "Learned Helplessness", "Rational Ignorance", and "D-K Effect". Analyzing the causes of these misunderstandings and putting forward corresponding solutions will help non-English majors establish a better understanding of English learning process and stimulate their initiative and consciousness.

**Keywords:** *non-English majors, English learning, cognitive errors, Learned Helplessness, Rational Ignorance, D-K Effect*

## I. INTRODUCTION

In College English learning, non-English majors have serious cognitive errors in English learning, which make it difficult to stimulate their interest and motivation, resulting in a poor learning outcome. This paper will analyze the cognitive errors that affect non-English majors' English learning and their causes in the new era, and further explore the corresponding solutions for College English learning. College English will be abbreviated as CE, and Non-English majors will be abbreviated as N-E majors in the following.

## II. COGNITIVE ERRORS THAT AFFECT COLLEGE STUDENTS' ENGLISH LEARNING IN PRESENT TIME

In recent years, with the rapid development of the Internet and the popularization of smart phones, college students in China spend a lot of their time on smart phones in their spare time, and sometimes even a lot of class time. They are distracted by electronics. They look like zombies. In the college classroom, many students use their smart phones to play games, watch movies, listen to music, skim their friends' WeChat Moments, view "douyin" and do some other things unrelated to English learning. This phenomenon is more serious in N-E majors' English classes. CE is a public course for all N-E majors, and the students think the course is not as important as their major courses, so they have pay less attention to it. As a result, their English level does not improve in college. Based on the teaching for N-E Majors' English in recent years, the author finds that most of the students who have strong willingness to learn English have high English scores in middle school and clear objectives for postgraduate entrance examination after entering college.

They think English is important and have always liked learning English, and they value learning English whenever they can. On the contrary, the students with weak willingness to learn English have a poor English foundation in middle school, low English scores in college entrance examinations and lack clear objectives for postgraduate entrance examinations. They think they can finally graduate from college without studying English seriously. N-E majors don't use much English in their college study, and their English scores won't seriously affect their graduation, so they ignore or even give up CE learning. According to these two cognitive states, N-E major CE learners can be simply divided into active learners and passive learners. In this paper, the author will mainly focus on the negative learners and the serious cognitive errors, which seriously affect their CE learnings. Next, the author will explore the causes of cognitive errors in the process of English learning.

## III. CAUSES OF THE COGNITIVE ERRORS IN ENGLISH LEARNING AMONG COLLEGE STUDENTS IN PRESENT TIME

### A. "Learned Helplessness" of students

"Learned Helplessness" refers to the act of being at the mercy of others due to repeated failure or punishment. Learned helplessness is a kind of hopeless and helpless behavior and psychological state formed through learning." [1] The indoctrinated learning style in primary and secondary schools causes the freshmen to be at a loss in the face of English learning, because the learning in college is no longer like that in the middle school where all the learning tasks have been arranged by their teachers, and everything was supervised by their teachers. Initially, the college entrance examination was their "ultimate goal", but after the goal of college entrance examination was realized, some people didn't know how to learn, especially how to learn English, and many students fell into "Learned Helplessness" unconsciously. The main reason why some N-E majors are reluctant to learn English in college is that they think their English foundation is not good in middle school and their scores in the college entrance examination are not good, so they think they can no longer learn English well. And some N-E majors think that they study science in high school, so they are not good at reciting a lot of vocabulary, which belongs to liberal arts learning. They think that their memory is not as good as that of liberal arts students, so they

unconsciously give up English learning. Some students have a rigid way of learning English in middle school; they can't realize the fun and sense of achievement of English learning. At the same time, repeated failures, excessive assignments, and intense pressure form a bad psychological shadow, which eventually leads them to have a sense of "Learned Helplessness". In addition, some CE teachers think that when students enter college, they should know what they want to learn and how to learn. Teachers pay little attention to students' ideological cognition and learning mentality. Therefore, students do not get correct and effective guidance, which aggravates their sense of "Learned Helplessness". Because of the learned helplessness caused by various reasons, N-E majors give up English learning and waste a lot of valuable education time. As a result, their English is still at a low level.

#### *B. "Rational Ignorance" of students*

Nowadays, college students are living in an information explosion era. The information is so easy to get, that people are becoming more and more ignorant. This kind of "Ignorance" is called "Rational Ignorance". "Rational Ignorance" was put forward by Anthony Downs, a famous American economist in the 1950s. The meaning of "rational ignorance" is that people's efforts to acquire knowledge exceed the advantages of acquiring knowledge. [2] The progress of network technology and the convenience of information acquisition make people spend a lot of time on the network. For college students who are addicted to smart phones, a large number of them spend a lot of time, even a few years of golden study time in college, playing video games. Therefore, they have an encyclopedic understanding of a lot of game knowledge. However, this kind of knowledge has no substantive significance for the realization of personal ideal, the realization of personal social value and the construction of a harmonious and happy life. They think that all the information that people need in the future can be obtained from the Internet at any time, so they rationally refuse to learn. However, they don't know that only by internet searching, the information they get may be wrong, and the greater danger is that such an idea may lead them into a state of "Meta Ignorance", that is, they can't realize their ignorance. In fact, not all knowledge and information can be obtained through Internet. In many cases, opinions can't be obtained by searching at all, because well expressed opinions come from careful thinking, logical integration and artistic language of the human brain. Internet searching can't do that. Moreover, people can't always search for a point of view when communicating with others, and they can't express all points of view in other people's language structures and thoughts.

The "Google Effect" brought by the convenience of the Internet is also one of the reasons for "Rational Ignorance". In China, the "Google Effect" may be called the "Baidu Effect", which means that the information which can be found on the Internet will be automatically forgotten by the brain. It was not easy to find learning materials in the past, so when the students found useful information, they would record it in a notebook, and at the same time keep the

particularly important information firmly in their mind. Now a lot of knowledge can be obtained through Internet search. People can search for information whenever they need it, and then forget it immediately, mainly because we know that these things can be obtained by searching anytime, anywhere. For example, due to the convenience of taking photos, less and less college students taking notes in class now. Some students may take a picture of the key points on the blackboard or slideshow that the teacher emphasizes and they think they will write down their notes after class. In fact, many students delete the pictures without even looking at them. Naturally, they certainly do not remember what the teacher said in class. Since they can shoot with their smart phones or search for information on the Internet, they are not as serious in class as former students who couldn't rely on smart phones or the Internet. And they also don't think deeply or they don't think at all, because they want to search online when they need the knowledge. However, when people are in urgent need of some knowledge, the smart phone may not have power or signal, and the searching results are varied and hard to distinguish the truth from the fiction. In addition, when all things can be attained from "Baidu", there is one thing will never be found, that is what you should search for.

#### *C. "D-K Effect" of students*

"The full name D-K Effect is Dunning Kruger Effect. It is a kind of cognitive deviation phenomenon, which means that people who are lack of ability draw wrong conclusions on the basis of their own lack of consideration, but they can't recognize their own shortcomings correctly and distinguish wrong behaviors. Those who lack these abilities are immersed in the illusory advantages of self-construction, and they often overestimate their own ability level, but cannot objectively evaluate the ability of others." [2] People with little knowledge reserve cannot understand the relevance of knowledge and make use of it. Charles Darwin said that "Ignorance is more likely to produce self-confidence than erudition." Some N-E majors think that China is becoming more and more influential in the world, and many foreigners are learning Chinese language and culture. In addition, many kinds of language translation machines have been invented, so they think they will not have communication problems in the future and they don't have to study English seriously. Some students think it's very important to learn English well in high school, because their English score accounts for a large proportion of college entrance examination, which has a great influence on entering a good college. After entering college, if they don't pursue further studies, their English scores seem to have little impact on their graduation. People who think English learning is not important don't expect to read or communicate in English as a normal part of their day. Since international trade is convenient, we may need to read overseas products instructions frequently; read the latest English information in work field; carry out daily oral communication when taking family members to travel overseas. College graduates in the new era, also have the responsibility of understanding foreign culture correctly and spreading Chinese culture precisely. It is impossible for a

translation machine to completely replace the face-to-face communication between people, because the communication between people involves not only English language and culture knowledge, but also the exchange of thoughts, emotions and feelings, which cannot be achieved by any advanced translation machines.

#### IV. STRATEGIES TO SOLVE THE COGNITIVE ERRORS OF COLLEGE STUDENTS' ENGLISH LEARNING

In the freshman year, it is difficult for students to form correct cognition of English learning. The CE teachers should give some positive guidance for the students. Competition is cruel and ruthless in the future. If the students do not have the needed value of society or their working fields, it will be difficult to have a good job or happy life. For the long-term development of students, we must lead them to jump out of the comfort zone, set up high goals in English learning, and strictly require them not to give up. Under the background of the new era, we should actively help students to establish a correct understanding of English learning and encourage them to take the initiative in learning English.

##### A. *Helping students overcome "Learned Helplessness" by understanding English learning methods*

"Learned Helplessness" is a kind of psychological barrier for N-E majors. Only if the students can realize it and understand it, can they overcome it. People who are good at English learning are not all gifted. It has been proven that many talents are outstanding mainly because they have made continuous efforts in the learning process. As long as the learning method is correct, and continuous efforts are made around their own learning goals, anyone can change from ordinary to extraordinary. That is to say, "genius" is the product of training. People can achieve outstanding achievements through patience and long-term adherence to "Deliberate Practice". The concept of "Deliberate Practice" was first proposed in the book *PEAK: Secrets from the New Science of Expertise* by Anders Ericsson, a professor of psychology at Florida State University. Through his research on outstanding figures in sports, music, chess, medicine, military and other fields, he proved that the principle of "Deliberate Practice" played an important role in people's progress from ordinary to extraordinary. The core of "Deliberate Practice" is to practice many times on the basis of the "Three Fs" principles. "Three Fs" refer to focus, feedback and fix. [3] To learn anything and make progress, you must focus on the target task. To learn, first set goals, and then focus on the practice. At the same time, purposeful exercises include correct feedback. Correct feedback can help you to identify, understand and correct your deficiencies in a timely manner. "For everyone who wants to improve themselves in any industry or field, deliberate practice is the gold standard." [3] There is no shortcut in learning. The so-called good learning methods should be scientific and correct methods like "Deliberate Practice". In English learning, the principle of "Deliberate Practice" is also very helpful. Only by recognizing more, learning, practicing more can students

overcome the "Learned Helplessness" formed by their past learning experiences.

##### B. *Helping students overcome "Rational Ignorance" by recognizing the value of English learning*

"Rational Ignorance" is also a psychological barrier. Only by better understand some of the real-world problems can we avoid "Rational Ignorance". Understanding the relationship between knowledge and income, education and success can students overcome "Rational Ignorance". "Education is useless" was once a popular saying in China. But in recent years, people are more and more aware of the importance of education and knowledge. Therefore, many parents make every effort to make their children pursue a high-quality education. William Poundstone, the American writer of *Head in the Cloud*, discussed the correlation between knowledge and income in his book. According to the test, two people with the same education and the same age have a difference of \$55,000 per year in income due to their different knowledge levels. That is to say, the income of people with high levels of knowledge is 2.35 times that of people with low levels of knowledge. Statistics have also been collected in China on the income of college graduates at different levels. The average income of "Project 211" and "Project 985" university (China's "Ivy League") graduates is much higher than that of ordinary universities. It has been proven that graduates who have high English levels in college have a much broader path to job after graduation as well as better opportunities and treatment after employment are better than those who have low English levels.

The Japanese people believe that "Having money is not shameful. Not having money is shameful." They think that people with good education are more likely to succeed, and successful people can earn a lot of money, while the poor are lazy and don't study hard. A large amount of data regarding the paths of successful people shows that most of them obtained a higher education. Bill Gates once stressed the importance of education in a speech at Harvard College. Although he dropped out of Harvard University in his junior year, he still discouraged dropping out and encouraged everyone to get the best education possible, because there are few successful cases without higher education, let alone any successful ones who were dropouts. Take successful people from all walks of life; few are successful without higher education. For example, Mark Zuckerberg, Facebook's founder, graduated from Harvard University. Sahlman Khan, the Khan Academy's founder, graduated from MIT. Yu Minhong and his partners, the founders of New Oriental Education and Technology Group in China, graduated from Peking University. Li Yanhong, the founder of Baidu, graduated from Peking University, and earned his Master's Degree from State University of New York. Ma Yun, the founder of Alibaba, graduated from Hangzhou Normal University. Ma Huateng, one of Tencent's main founders, graduated from Shenzhen University; Ma Mingzhe, President of Ping An Insurance, graduated from Central and Southern University of Finance and Economics. All of these successful people at home and abroad received high-quality educations, and yet they are still in a state of active learning.

### C. *Helping the students eliminate the "D-K Effect" by understanding the significance of English learning*

Confucius said, "The sage gentleman understands what is moral, the villain what is profitable." In the book of *I Ching*, there is a saying that "It's better to prepare things for use, to build tools, and to think that the world is more beneficial than Saints." A man of ability may gain fame and wealth in the secular sense. Only those with the ability to adapt can live as a light to light themselves and others, and then through the baptism of time, be more and more brilliant. The significance of learning English for N-E majors is not just study to pass CET-4 or CET-6, but to expand the scope and breadth of the one's life, to broaden their horizons of thinking. Learning is the eternal theme of human beings. Learning changes people's thoughts, life, and destiny. Learning English is both fun and rewarding. CE learning is no longer as mechanical as it was in high school, where the primary focus was preparing for the college entrance examination. There is no boring grammar, and there are no endless and painful tests. CE learning is more about wholistic learning, science and technology, culture, folk customs of different countries; develop the students' ability of English reading comprehension; the ability of critical thinking, the ability of sensitive analysis of the motives, the actions, and the thoughts of other human beings; and the ability clear, logical self-expression. After graduation, whether working in China or other countries, language communication and cooperation are essential for future development. Training students to have a growth mode of thinking, that is, believe that their basic ability can be developed through their own efforts. Even if people are different in innate ability or qualification, interest or temperament, everyone can change and grow through efforts and personal experience. Learn English well or try some new things, try to develop in different directions can help the students jump out of their own ability trap.

Understanding the relationship between knowledge and happiness is helpful to eliminate the "D-K Effect" too. People can't say that high income means high happiness, but some data shows that families with middle income are much happier than those with low incomes. Happiness is not only a psychological state, but also a cognitive ability. Professor Taylor Ben Shahar, a Jew professor of Harvard University, analyzed the importance of ideology to happiness in his book *Happier: Learn the Secrets to Daily Joy and Lasting Fulfillment*, so that we can understand the influence of ideology on happiness. From the Chinese consumption view and happiness view: before the 21st century, most Chinese people saved money for consumption, such as saving money to buy a house, saving money for children's education, etc.. Their happiness is "humiliating and burdensome". They always think that everything will be OK after the biggest difficulty is behind them. In fact, new things will appear after finishing one thing, so they will never feel better, and they will always feel that happiness is far away from them. People with higher education know how to enjoy the present happiness. While they are striving for the future, they can also feel and enjoy the happiness of the present. Enjoy the present happiness and joys, live in the present time; you can have a really happy life. Nowadays, young people look for

their spouse first to consider their education, educational background and work field. When people choose their marriage partners, it seems that they are attracted by magnetic fields. People who are knowledgeable and erudite are more likely to choose a soul mate that has a good education, a good job and a stable and reliable income. In addition, your children's education will be affected by your education level. Good English learners are more likely to come into contact with and accept advanced cultural ideas, and constantly deepen their own cultural, artistic, humanistic and moral cultivation. When you reach a certain level of understanding of the world, when you can adjust your thoughts and views of the world, you can face all kinds of situations in life peacefully. Only then, will you have the ability for happiness, that is, the perception of happiness.

### V. CONCLUSION

As CE teachers in the new era, we should encourage the students to take the initiative in learning and exploration, and guide them to walk out of the misunderstanding of "Learned Helplessness", "Rational Ignorance" and "D-K Effect". American historian Henry Adams said: "A teacher affects eternity; he can never tell where his influence stops." In addition to teaching professional knowledge, teachers should encourage students to maximize the realization of their ideal aspirations. Teachers should strive to create a positive learning environment, help students to establish their own life goals, stimulate students' internal motivation, and let them consciously work hard to achieve their own goals. The famous Irish poet William Butler Yeats once said: "Education is not the filling of a pail but the lighting of a fire." To fill a bucket with water is to tell students that you should do this and you should do that. The result is that the student becomes the bucket of water that you set. Shake it gently, and the water in the bucket will spill out. To light a fire is to ignite passion in learning and encourage students to develop into their own best selves. From a little spark may burst a mighty flame. When they take the initiative to learn and understand the value of English learning, they will gradually leave the misunderstandings of English learning behind. At the same time, CE teachers should learn to "control" the teaching environment and improve classroom attention. In order to improve the students' attention in the classroom, the teacher should walk among the students in every class, making students aware that this is a sovereign space of learning, a territory controlled by the teacher, not the place where they play with mobile phones. When teachers often walk around the class, they should interact with the students, putting forth appropriate, interesting or humorous questions. This not only keeps their attention in the classroom, but also lets students feel the teacher's connection to them, and makes students more active and enthusiastic to participate in classroom activities. When students are engaged, it helps them to overcome "Learned Helplessness", "Rational Ignorance" and "D-K Effect". Help the students foster their innate abilities to learn, to think, critique, create, and innovate.

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