

How Are Students' Learning Patterns Influenced by the CEE

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Abstract: The College Entrance Exam (the CEE) in China has been in operation for several decades. However, there are increasing complaints about this education system in recent years, claiming the CEE can harm students' learning patterns. This article aims to review the students' affected and changed learning patterns in the context of Chinese College Entrance Exam (CEE) as well as Chinese cultural background. First, this paper introduces the basic information about the CEE and its score-oriented system, in order to better analyse in the following contents. Second, this paper describes how scholars define a learning pattern and what can influence a learning pattern. Then, the paper points out the gap that few researchers have explored how students' learning patterns can be influenced by such an exam system. Lastly, after reviewing past papers, the results show that learning patterns of students can be negatively influenced either directly or indirectly in the context of the CEE. This study shows the importance of an education system as well as parenting or teaching styles in affecting the students' learning habits and skills like critical thinking. Findings from this study also provide new insights for instructors and learners to optimize the learning patterns.

Keywords: the College Entrance Exam in China, learning patterns, critical thinking

1. Introduction

In the context of contemporary Chinese education system, the College Entrance Exam (CEE, also called the Gaokao) is critical and a necessity for most of the high school students who are supposed to receive further education in this nation to take. The College Entrance Exam in China is important and is usually seen as "once in a lifetime" and a life changing exam by most Chinese people [1]. To complete the whole Gaokao, the students have to take 6 paper tests, including three fixed subjects, that is, Chinese, Mathematics and foreign language (mainly English). The students also have to take another three tests, choosing from Physics, History, Biology, Chemistry, Geography and Politics. For most regions in China, the Gaokao has 750 points in total [2]. The universities accept the students mainly and almost merely on the paper score of the exam. Students with higher scores can get access to better institutions, thus have much more job opportunities in the future [3].

The political condition in the country as well as the traditional culture played an important role in the way that CEE oriented college admission system was established and developed [4]. Antagonistic opinions, however, are hold on this exam. It is controversial in academe whether to retain or abolish CEE [5]. Some thinks the revival of the CEE at least theoretically represented equal opportunities for students to enter higher education institutions [6], while some others are inclined to propose some recommendations for reforming China's Gaokao [7]. All in all, the exam is seen as the origin of the

students' intensive pressure without doubt since their performance in this exam is closely related with their future [3]. Therefore, students' learning behaviors and habits will inevitably be influenced, hence their learning patterns.

However, although previous studies have investigated the social-culture or the development of CEE, there is lacking of a review to summarize various effects that this examination have on students. Despite the debate on the exam itself, there is even more uncertainty for the students themselves such as the effects of schools, families as well as other students around them [8]. Thus, they must change themselves, like learning habits, ideological building, in order to obtain more preponderance before and when they take the exams. Therefore, the current paper aims to fill the gap to explore how students' learning patterns are influenced or even changed under such stressful educational environment. Specifically, this paper will review the papers that study the CEE and students' learning patterns which are published in recent decades as well as investigating Chinese students' thoughts on what they are facing at present.

2. Cee In China

College Entrance Exam (CEE) or so-called "Gaokao" is an important test for Chinese students to take to receive higher education [5]. The present Gaokao policy requires the student to take 6 paper tests in total. Chinese, mathematics, and foreign language (mostly English) are the fixed subjects, of which each has 150 scores. The students can choose the other 3 subjects based on their preference, which totally counts 300 points [2]. Most students may take the Gaokao only once in their life. Thus, the test is also considered the determinant of the destiny of the student even as well as the whole family [1].

Since the College Entrance Exam is a standardized test, it is true that the test can ensure the equality every student should receive and that it is a suitable and rational choice for contemporary China [4]. However, artistic and athletic talented students may not enter higher institutions by exhibiting their unique skills [8]. Furthermore, the CEE centered education system is strongly associated with interactions among participants in the classroom, which will negatively affect the students' critical thinking ability [9]. Also, the CEE evaluates the participants' performance mainly by judging whether the answer given is right or wrong, which will harm this ability as well. For instance, according to the survey involving nearly 25,000 undergraduates conducted during her research, Lisa Tsui mentioned in her paper that self-reported growth in critical thinking of students is positively related to conducting a research program, engaging in teamwork, and giving presentations in the class. On the contrast, attending multiple-choice tests, the most common form in the CEE, is conversely related to the critical thinking skill [10].

Scholars have focused on the social-culture as the factor that shapes the CEE or the development of this test in history. For example, by conducting a case study to gain insights into the trouble that Chinese high school teachers would encounter when applying the western pedagogy in China, Shengnan Liu and Da-ming Feng realized that the model of instruction as well as the CEE can be intensively influenced by the cultural context [11, 12]. Nonetheless, very few studies examined CEE's effect on students' learning processes or patterns, that is, the influence that may cause changes in students' learning motivations, learning process, learning attitudes, etc.

3. Students' Learning Patterns

The term learning pattern is conceptualized as a combination of learning strategies that usually been employed by the learner, their beliefs and perspectives about the learning behavior and their motivation, a set that is unique due to their personal preferences in a given period of time [13]. According to many scholars, learning patterns can be classified into five dimensions in total, that is:

(1) perceptions about learning and attitudes toward this process; whether a student is taking a positive attitude toward the learning place or the class assignments can strongly influence whether he can learn efficiently. (2) cognition involved in attaining and assimilating knowledge; students should make connections between new and learned knowledge, thus they can master the skills. (3) cognition involved in extending and improving knowledge; making analyses on learned knowledge can help learners develop a deeper understanding. (4) cognition involved in employing learned knowledge expressively; the most efficient study happens when using knowledge meaningfully, which is the most important part of learning. (5) effective habits of mindset, which means to think critically and creatively and to self-control one's behavior [14].

Previous scholars have researched the learning patterns of students in various conditions. Among those, for instance, researcher Abdusalam, Noraidah, Siti and Zainudin mentioned in their paper that digital education environment can provide both the teachers and students with new learning styles and opportunities. They found that by finishing tasks and getting praises online or being instructed and supervised remotely, the students are more likely to develop a persistent learning pattern [15]. However, they have not explored the influence that the examination system (e.g. the College Entrance Exam) has on the patterns.

4. Cee and Students' Learning Patterns

The CEE have both direct and indirect effects on how the students deal with study, hence their learning patterns. The direct impact is to exert mental pressure on the learner and hinder them from the learning progress [16, 17]. The indirect impact is to affect the parenting styles and the pedagogy that teachers use, which will eventually influence or even change the students' learning patterns [18, 19].

Researchers have examined how the stress that the College Entrance Exam has imposed on students can negatively affect their learning patterns. For instance, in the study of adolescents' reasoning about the CEE in China conducted by Gloria Xiao Yu Liu and Charles C. Helwig, they concluded that students from all backgrounds expressed the psychological stress and mental conflict deriving from the risky Gaokao examination. In addition, after comparing the report results between rural and urban teenagers, this team also found that under the CEE education system, rural students inclined to evaluate their own mental health poorer than those in urban areas since the rural raters considered themselves to be treated unequally in education, which also inevitably conspired to produce more intense pressure on them. The stress eventually will result in the loss of those learners' learning motivation [16]. What's more, in the experiments conducted by Wang, Huey-Fen and Yeh, Mei Chang, they found that students may have an optimistic perspective toward the pressure when the stress is quite slight. However, when they are perceiving higher level of the stress, they may be triggered to employ a psychological defense mechanism, that is to use emotional coping strategies, to deal with the stress caused by the entrance exam. Such strategies include avoidance and emotional disturbance, which will absolutely harm the learners' concentration and performance. As the level of stress continues to rise, the situation may correspondingly go to extreme. This can finally mislead the learners to have a wrong perception and mindset about learning [20].

Researchers have also conducted studies to gain insights into how the CEE can have effects on the students' surroundings, such as their parents and teachers. In this case, engaged in an environment with influenced parenting style or pedagogy, the students can also be affected by the CEE system indirectly. For example, in Nan Zhu and Lei Chang's study, they pointed out that both the education system and Chinese parenting highlight the academic success that the students should achieve. Nevertheless, they also mentioned that the CEE education system encourages the parents to strictly take control of their children through various parenting practices such as high expectations, high attachment, inspiring reassurance of academic motivation and conformity. This can result in the

reshaping of the students' learning habits that are assimilated into the parenting style. At the end, when the students come to learning, they will become encouragement reinforced, highly conformed and have similar but fixed learning habits, where there is a lack of critical thinking and diversity [18]. Another example is the research conducted by Li Shuying. The author in the paper emphasizes that teachers in China have always been using an examination oriented pedagogy and rejecting the idea that students should spend some of their time in playing, thinking it is a waste of time. On the contrary, the writer asserts that playing is actually a crucial part of students' development. Limiting students from entertaining themselves, however, goes against with the statement. As a result, the learners will study and develop in a deformed way, which may cause disabilities (either physical or mental) to the students and thus negatively influence the learning patterns [19].

5. Conclusion

Through summarizing papers of past scholars, the researcher found a theoretical explanation about what effects the College Entrance Exam system in China can have on the learning patterns of the students.

On one hand, since the test is score-oriented and many test takers only have a single chance in their lifetime, this test can directly exert huge amount of stress on the learners. Under such condition, the learners will feel exhausted and may even show avoidance. Furthermore, as the stress becomes extremely high, the learners may have an incorrect perception about learning. Therefore, many learners will have a decrease in academic performance and the ability to concentrate on learning in the CEE centered education system. On the other hand, the CEE can indirectly affect learners by influencing their surroundings, such as their parents, teachers, etc. In some researches, the scholars concluded that Chinese parents' parental patterns can be shaped by the CEE system and will become increasingly strict and controlling. In other studies, many teachers in China are found to be using examination oriented pedagogy as well as setting strict limitations in order to make students get higher scores in the exams. Both two types of effects deriving from the CEE are powerful enough to reshape the learners' learning habits and even living habits, but in a negative direction.

Gaining a deeper insight into how can CEE affect learners' learning patterns through this research can help provide teachers or parents and students with a distinct perspective on the learning process and teaching or parenting or studying strategies as well. For teachers and parents, they can be aware of the consequences that irrational rules will result in. Thus, they can change or avoid using such teaching or parenting methods in order to prevent the students from being too stressed and showing a negatively influenced learning pattern. Moreover, students involving in the CEE education system can have a more comprehensive understanding about what they are experiencing at the moment, which is helpful for them to regulate themselves in order not to develop a too simplified learning pattern. Therefore, there will be students of great diversities.

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