A COMPARATIVE STUDY OF COLLEGE ENTRANCE EXAMINATIONS (CEES):
SAT AND ACT IN THE UNITED STATES OF AMERICA AND
GAOKAO IN THE PEOPLE’S REPUBLIC OF CHINA

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A COMPARATIVE STUDY OF COLLEGE ENTRANCE EXAMINATIONS (CEES):
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Thesis

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CHAPTER I
INTRODUCTION

Background

The United States of America (USA) is considered to have one of the most advanced economic and political structures globally, and the People’s Republic of China (PRC, hereinafter referred to as China) is becoming one of the USA’s most formidable competitors. In the 21st century, higher education plays a key role in shaping economic development among nations. In China, the number of new entrants to higher education institutions increased from 2 million in 1997 to 7.3 million in 2006 (Yao et al., 2010). Mazurek & Winzer (2006) stated that “higher education institutions are crucially important; they train high-level personnel capable of competing with the educated elites of other countries” (p. 79).

In China, the National College Entrance Examination (NCEE) (referred to as “Gaokao” in Chinese) determines whether students from secondary schools are qualified to be admitted to higher education. According to Li (2012), the NCEE in China is “a big issue that concerns the interests of people of all the classes in the society; it is not only the reallocation of the resources of higher education of one country, but also the reallocation of the whole social interests” (p. 165).
All secondary school students in China must take Gaokao in order to be admitted to full-time ordinary institutions of higher education (referred to as “quanrizhi putong gaoxiao” in Chinese). Students who enter higher education without taking Gaokao are all part-time and non-degree seeking students and such higher institutions usually include adult colleges, night universities, and distance learning. Gaokao is a nationally standardized exam that aims to attracting high school graduates who want to go to full-time higher education institutions to seek a degree. On June 7 - 8, 2013, over 9,120,000 students took the exam (CRI English, 2013). It is believed that earning a college degree will lead to greater job options and a better quality of life; as such, all students, parents and teachers attach a great deal of importance to the exam. As a result of difficulties in admissions, the Chinese people considered the threshold of higher education as a dragon gate, a metaphor from a Chinese legend: a humble carp fish jumps over the gate and becomes a sacred dragon (Liu, 2012).

Because of its importance, Gaokao, which takes place on the 7th and 8th of every June, is considered as a momentous event in China. Personnel in both the private and public sectors all work together on the days of the exam to ensure that test-taking conditions are most conducive to the success of test candidates. For example, traffic patterns are orchestrated so that all traffic routes to the test taking sites remain clear. It is even a common occurrence for cabbies to reduce the cab fare for candidates who are headed to take the exam, the whole nation’s attention is on
the examination. The topic of the Chinese language writing section of the exam often becomes the subject of discussion in the news and around dinner tables.

Since the late 1990s, higher education in China has developed rapidly, the gross enrollment rate rose from 7% to 22% in that time (Yao et al., 2010). The enrollment percentage has increased steadily from 4.8% in 1977 to 74.86% in 2012 (China Education and Research Network, 2013). Although the expansion of higher education in China makes it much easier for the candidates to access higher education than in the past, this does not address the fact that the study load for the high school students is still very demanding. One very important reason that could explain this is the national-wide College Entrance Examination (CEE). Chinese students have to study very hard on certain subjects to achieve high scores on the test, which is the only way for candidates to receive higher education. The subjects include the Chinese language, Mathematics, English, Political Science, History, Geography, Physics, Chemistry, and Biology.

The CEE system in the U.S. mainly includes two tests: Scholastic Assessment Test (SAT) and American College Testing (ACT). In general, applicants of higher education institutions are required to take either the SAT or ACT when applying for admission to higher education institutions. Different from Gaokao in China, students in the U.S. can take SAT or ACT more than once before applying for colleges. In addition, higher education institutions also consider other admission standards such as high school Grade Point Average (GPA).
Berger (2012), Li & Chang (2008), Li (2012), Li (2008), Luo (2009), Yang (1993), and Zeng (2010) point out that Gaokao in China is more knowledge-based while the SAT and ACT in the U.S. are more aptitude-based. Reading, Writing, and Mathematics are the main contents included in both SAT and ACT. Although no specific questions concerning History, Biology, Chemistry or any other subjects appear on the exams, the content of reading section is very inclusive. Test-takers’ ability and critical thinking skills are key factors to gain high scores in the exams (Berger, 2012; Li, 2008). Compared to the CEEs in the U.S., Gaokao in China aims to evaluate students’ academic achievements in high school. Most exam questions require rote learning in Gaokao.

CEE s play an important role in higher education in both nations. Given its importance, I, educated in China, a participant of the national entrance examination for both college and postgraduate, and now pursuing master’s degree in the United States, find great interest in comparing the CEEs in these two countries, namely SAT and ACT in the U.S. and Gaokao in China.

Research Problem

CEE s in the U.S. and China have been studied and compared by some Chinese educators and researchers in recent years. Content and method of the exam and the admission standards are the most widely discussed topics in the research (Berger, 2012; Li & Chang, 2008; Li, 2008; Li, 2012; Liu, 2012; Liu, 2013; Long & Li, 2008; Luo, 2009; Yang, 1993; Zeng, 2010). In addition, researchers also attend to
management and functions of the exam (Feng, 1999; Hawkins, 2000; Li & Chang, 2008; Zhang, 2010).

However, most studies did not situate the CEEs in their larger social contexts. Pertinent educational issues are not isolated; they are instead related to every aspect of the society in which they are embedded and have their own social, cultural, historical, political, and economic foundations to support them. Consistent with O’Brien’s (2006) statement that “the ways in which we make sense of our worlds cannot be separated from the context in which we operate; context always matters; any attempts at change must consider local conditions, norms, and goals” (p. 10). To make sense of the various factors effecting education, one should situate the issues in the larger social context of a nation. Developing an in-depth contextual understanding of the educational issues will also help the educators and policy-makers make more reasonable decisions on reforms and changes.

Thus, this study will attempt a comparative analysis of the CEEs in the U.S. and China in their larger social contexts. I believe to do so will contribute to a more comprehensive understanding of the two exam systems, and provide practical and reliable recommendations based on this understanding.

Research Questions

By comparing the College Entrance Examination in the United States of America and the People’s Republic of China, this study aims to answer the following questions:
1. What are the commonalities and differences between the CEEs of the U.S. and China in the area of administration?

2. What are the commonalities and differences between the CEEs of the U.S. and China in determining students’ qualifications for higher education?

3. In what ways do the CEEs of the U.S. and China contribute to inequality? And how are these inequalities similar and different across countries?

The existing research literature tends to focus on the issue of inequality of Gaokao in China and CEEs in the U.S. respectively. In order to do a systematic comparative study of the CEEs in the U.S. and China, it is helpful to take this key issue into consideration. It will help understand the CEEs more comprehensively.

Research Purpose and Significance

This study aims to present a systematic comparison of the SAT and ACT in the U.S. and Gaokao in China. More importantly, this thesis tries to analyze the features of the two countries’ exams and their relationships with their respective societies, history, culture, politics, and economics. A better understanding of the educational issues comes from situating them in the larger social contexts. More specifically, this study will examine a comprehensive picture of the CEEs in both the U.S. and China, including the administration of the examinations, the standards that the universities consider in determining students’ qualifications for higher education, and the issue of inequality of the examinations.

To a large extent, this comparative study aims to attend to the merits of the SAT and ACT in the U.S. in order to explore viable alternative reforms of Gaokao.
However, if we want the plant to grow well in a new place, there has to be suitable environment, weather, and soil. One cannot simply uproot elements of one society and expect them to flourish in the soil of another society (Arnove & Torres, 2003, p. 7). Thus, significance of this study lies in its contextual analysis.

Organization of the Thesis

This thesis consists of five chapters. Chapter one includes research background, the research problem and questions, the research purpose and significance, and the organization of the thesis.

Chapter two presents the literature review. First identifying the college entrance examinations of the United States and the People's Republic of China, followed by a historical review of the college entrance examinations in both countries, and last, a discussion of related studies on comparison of the SAT and ACT in the U.S. and Gaokao in China from which the rationale of this study is derived.

Chapter three introduces Bereday’s “four-step” comparative method in education.

Chapter four reviews the study conducted. In this part, Bereday’s “four-step” comparative method is used to compare the SAT and ACT in the U.S. with Gaokao in China. Specifically focusing on the standards of determining CEE test-takers’ qualification for higher education, and the issue of inequality of the CEEs.
The last chapter presents the conclusion. It consists of the main findings of the study and recommendations. In addition, limitations and suggestions of the study are also presented.
CHAPTER II
LITERATURE REVIEW

In this chapter, I first define CEE. Next, I offer a historical review of the CEEs in the U.S. and China. Finally, I review the comparative studies of the SAT and ACT in the U.S. and Gaokao in China.

College Entrance Examination

In this study, College Entrance Examination is a general inclusive term, referring to the standardized examination that applicants of the higher education institutions are required to take. There are more than one level in higher education in both the U.S. and China. Generally speaking, both have equivalent undergraduate and postgraduate levels, for which different levels of examination are required. This research will focus on the CEE for admission to education at undergraduate level. Specifically, this comparative study examines the “Gaokao” in China and the Scholastic Aptitude Test (SAT) and American College Testing (ACT) in the U.S.

In order to conduct a systematic comparative study of CEEs between the two countries, this study will examine key aspects of CEEs, such as the exam designers, the administration system, the methods of the exams, the admission standards of higher education institutions and the enrollment procedure. In what follows, I review
research literature concerning the history and development of CEEs in the U.S. and China.

*A Historical Review on Admission to Higher Education in the U.S.*

The history of CEE system in the U.S. can be divided into three eras: (a), the colonial period, (b), from the civil war to early 20th century, (c), early 20th century to the present.

The colonial period: oral examination

College admission requirements during the 17th century was a reflection of the changes that took place in the entrance conditions at Harvard College (Broome, 1902, p. 17). According to Broome (1902), Harvard College was the only higher education institution that was established before 1700 because the College of William and Mary did not develop beyond the stage of a preparatory school until the next century.

During this period, the applicants were mainly from the Grammar Schools and students under the guidance of clergies. The method was oral examination, and the main contents included Latin and Greek. In accordance with the admission standards set by President Dunster of Harvard College in 1642, applicants who were able “to read Tully and speak true Latin in verse and prose, Marte, and decline perfectly the paradigms of nouns and verbs in Greek tongue” were qualified for admission to Harvard College (Broome, 1902, p. 18). The most important subject among the requirements for admission was Latin because as this was the common language of scholars (Broome, 1902). Before the 19th century, oral examination was the main

The oral examination fit the needs of higher education institutions at that time. It was very flexible, and the method was quite informal. But there were not many candidates as well as higher institutions at that time, so this method was easy and simple to carry out and helped the colleges select the type of students they wanted. Then with the development of the scale education and higher institutions, more and more students wanted to receive higher education. Because there were more students, the oral examination standard lead to time constraints. This method of admission was no longer suitable. Then the diploma system appeared.

From the Civil War to early 20th century: the diploma system

Since the enactment of Morrill Act in 1962, both the sizes and numbers of American higher institutions had increased. By the end of the 19th century, more than 200 new colleges appeared in the U.S., and the number of students in higher education had increased greatly (Yang, 2007). In 1870, the University of Michigan first applied the method of certificate to enroll new students, which means that students with a diploma from certain preparatory schools in the State of Michigan were qualified for admission to the university without further examination. Since then the diploma system was the prevailing method of admission among the state colleges. In 1890, the number of college students had grown to 157,000. In spite of the aforementioned increase in college students, less than 2 percent of the
18-to-24-year-old population had access to higher education. Fifty years later, however, enrollment was up to 1,494,000, slightly more than 9 percent of the 18-to-24-year-old population (Reuben & Perkins, 2007).

Because higher education institutions conducted regular inspection of preparatory schools, the diploma system ensured the quality of the students entering the universities (Luo, 2009). This regular inspection brought the colleges and secondary schools into a closer reciprocal relation (Broome, 1902, p. 119). But this reciprocal relation created conflicts between the higher education institutions and the secondary schools. With time going on, the preparatory schools considered that the colleges were depriving their autonomous rights on their own schools. At the same time, the colleges also found that proper inspection and visitation to be a great burden, and were discontent with some preparatory schools’ low academic standards. With the intensification of the conflicts between the universities and the secondary schools, there was a strong need for a new system to help with the enrollment in higher education institutions in the U.S.

Early 20th century to now: college entrance examination system

Early 20th century witnessed the beginning of the new College Entrance Examination. In 1900, the College Entrance Examination Board (CEEB) was founded, and they administered the first standardized college admission exam in 1901. For the first time, students could take one entrance exam for several universities, instead of taking a separate exam for each university to which they applied. The exam was called Achievement Test (AT), included were the following
subjects, Math, Physics, Chemistry, History and English. While AT appeared to be an objective assessment of students’ qualification for higher education, concerned educators pointed out that AT put emphases on rote learning rather than assessing students’ aptitude and ability (Luo, 2009, Yang, 2007; Wang & Zhang, 2007).

In 1926 the first Scholastic Assessment Test (SAT) was administered by the College Board, which was composed of more than 5,900 schools, colleges, universities and other educational organizations in the U.S. There were two types of SATs, SAT I Reasoning Test and SAT II Subject Tests. The SAT was developed as a tool to democratize access to education for all students. The multiple-choice SAT was created to give equal opportunities for all students to demonstrate their skills and knowledge, regardless of their economic status, familial background, or their specific high school curriculum (Admission History Timeline, 2014). Since then, SAT gradually became the main assessment instrument to assess students’ qualification for higher institutions in the U.S. In 1947, Educational Testing Service (ETS), a non-profit organization, was founded in Princeton to administer both AT and SAT.

In 1959, American College Testing (ACT) became a competitor to SAT. ACT is administered by American College Testing Incorporated (ACT, Inc), which is also a private nonprofit educational research and service organization. The ACT has seen a gradual increase in the number of test takers since its inception, and in 2011 the ACT surpassed the SAT for the first time in total test takers; that year, 1,666,017 students took the ACT and 1,664,479 students took the SAT (Pope, 2012). Compared
to SAT, ACT put more emphases on subject matter knowledge students learned in the secondary schools.

ACT or SAT scores are not the only admission requirement. In 1919, the University of Columbia started to take other factors such as GPA in high school, personal experience, interests, special skills, and social activities into consideration. Today, there are still no national admission standards in the U.S.; every university has its admission policy.

A Historical Review on College Entrance Examination in China

The People’s Republic of China is regarded as the homeland of examinations. In terms of the systematic nature of examinations, their contents, form, conduct, administration, and in other areas, China has had a rich experience and for a long time has been ahead of the rest of the world (Yang, 1993). Public examinations are used as the major mechanism to screen and select students for the next level of education (Mazurek & Winzer, 2006). And among all those forms of public examinations, Gaokao has the most participants and is the most eye-catching. The historical review of the CEE system in China will be divided into the following sections, the “root”: Imperial Examination system, and the development of modern College Entrance Examination.

The “root”: Imperial Examination system

Ross & Wang (2010) traced the “root” of the CEE back to the Imperial Examination system (“keju” in Chinese). The Imperial Examination system was an
essential part of the Chinese government administration from its introduction in the Han Dynasty (206 B.C. to 220 C.E.) until it was abolished during Qing Dynasty when China attempted at modernization in 1905. The examination system was systematized as an official method for recruiting bureaucrats, and it served to maintain unity among educated elite at the national level.

Today’s Gaokao was first introduced in China in 1952 and continued until the Cultural Revolution began in 1966. The ten-year Cultural Revolution ended in 1976 and the system of CEE was restored immediately. Since then, Gaokao has been held once every year. The exam has become a crusade to which even the historical Imperial Examination can not compare (Pu, 2013). Guo (2006) pointed out that after the middle of the Ming Dynasty, the scale of the Imperial Examination was between 4 or 5 thousand and 10 thousand of people in each province, its average enrollment rate was estimated to be about 10%. Guo (2006) also noted that this enrollment rate was largest within the years of the existence of the Imperial Examination. With the development of the country and its economy, more and more people are inclined to pursue higher education. From 1998 to 2009, the number of college students enrolled in Chinese institutions increased from 1.08 million to 5.99 million (Ross, & Wang, 2013). From 1977 to 2012, the number of students who took Gaokao increased from 5,700,000 to 9,150,000; and the enrollment rate increased from 4.8% to 74.86% (The Ministry of Education, 2013).

Gaokao inherited the four-level hierarchical structure of the Imperial Examination, mirroring the political system in China (Feng, 1999). The CEE system
in China serves the essential political needs of both the central power and the common people. The central government selects the elites from higher education institutions to work for the country. From this perspective, Gaokao is similar to the Imperial Examination that selected qualified bureaucrats to serve for the emperors in ancient China. Otherwise, citizens regard Gaokao as an objective assessment of one’s qualification for higher education and upward career development.

The development of modern College Entrance Examination

A national unified CEE was first introduced in 1952, under the National Committee for the Enrollment of College Students (hereafter referred to as National Committee), which established regulations for common examination papers, subjects to be studied, political and health requirements, and eligibility procedures (Cleverley, 1991). It was the first time the modern CEE was held nation-wide, with the whole procedure from application to the enrollment. The National Committee has been responsible for administering Gaokao. Subjects of the examination included Political Science, Chinese language, Math, foreign language, History, Geography, Physics, and Chemistry.

During the Cultural Revolution (from 1966 to 1976), leaders regarded Gaokao as a counter-revolution device and consequently abolished it (Zhang, 2010). During that period, the main way to access to higher education was with some people’s reference, especially who has a “pure” political background. And the most important standards to be admitted were the political and familial backgrounds.
Since its restoration in 1977, CEE in China has undergone three main reforms.

The first is the structure of the exams. The system of “3+3” substituted the former system of “3+6”. The first “3”s represent the three core subjects: the Chinese language, Mathematics, and a foreign language (English for most candidates). The second “3” in the existing system refers to Political Science, History and Geography for students who choose to learn Humanities or Physics, Chemistry and Biology for those who choose Science and Technology. And the “6” is a combination of the six courses. So under such system, students learn all the subjects for the first year in high school, and then they will choose either Humanities or Science and Technology as their field according to interests and ability. Then for the second and third year in high school they will just learn what they have chosen and ignore the other three.

There are both merits and demerits of this reform. The advantage is that this reduces the study load of the students to some extent because they don’t have to review and prepare for all the six subjects. On the other hand, students also lose the chance to learn more in the school. This also causes imbalance of learning for students in China. For example, students who excel in humanities have very limited knowledge in Physics or Chemistry.

The second reform is the independent recruitment policy or the college autonomic admission. Since 2003, the high school graduates have more choices on Gaokao because a number of colleges began to implement the independent recruitment policy. The tests are always held five to six months ahead of Gaokao. The independent recruitment policy means to let universities select and admit
students whose learning styles match the universities’ philosophy of education. This is part of the universities’ effort to select students based on their own criteria. There are usually interviews after the written exams, which is very different from Gaokao system. By doing this, the students have chances to show themselves in other aspects. And for the colleges, they can also have the opportunity to choose what kinds of students they want. If the students don’t do well on the independent recruitment they have the second chance to receive higher education through Gaokao. However, it should be noted that only a very small portion of students have such opportunities because the quota is very small when compared with Gaokao. The number of students sitting in these independent exams was about 1% of that in the national exams in 2010 (Wang, 2011). So for most students Gaokao is still the only way to get into college. On the other hand, the independent recruitment policy makes the students’ study load much heavier. Many students even go to private cram schools to prepare for the more specialized exams. This inadvertently created additional financial burden for parents. According to a report in China Education Daily, 57.8% of responding students said independent recruitment had increased their pressure and course load, while 46.7% of teachers said it had increased their teaching load and work pressure (Wang, 2011).

The third reform focuses on comprehensive evaluation. Another reason that China has a long history of exams is due to the fact that examination-oriented education has always been considered as the biggest problem in Chinese education system. To address this problem, the reforms of CEE also made efforts to shift the
focuses of testing standards from rote learning to comprehensive quality and application of the learned knowledge. This reform trend represents the whole direction of Chinese education reform and the requirements of the present society for talented people. Liu (2013) stated that since the entrance exam was reinstated in 1977, an immense number of critiques have been made in regard to the flaws of elementary and secondary education. In general, the critiques focus on the examination-oriented education and decry the phenomenon of heavy on knowledge and light on ability. To deal with this problem, Shangdong, Hainan, Guangdong, Shangdong, Jiangsu, Ningxia, and other provinces successively announced new programs for entrance exam reform; and the key shining light of the new programs was to emphasize comprehensive quality evaluation in the entrance exams: this undeniably adhered to the direction of reform to the system of educational and examination evaluation (Liu, 2013, p. 42). Zeng (2010) stated that comprehensive evaluation should be an inevitable trend and key factor for Gaokao reform in China. Luo (2009) pointed out that comprehensive evaluation in Gaokao is the breakthrough for ability education in China. Kang (2004), Li (2008), Li & Chang (2008), and Yang (2013) all agreed that adopting comprehensive evaluation standards in Gaokao should be a future direction of reform.

Comparative studies of SAT and ACT in the U.S. and Gaokao in China

As part of the CEE system, the college admission requirements are one of the main research topics in the U.S. The development of college admissions
requirements reflect the needs of the society and the higher institutions. On the one hand, the public is interested in using standardized examination system as an objective instrument to determine applicants’ qualification for higher education. On the other hand, the public also endorse more flexible admission standards (Broome, 1902; Beale, 1970). Since standardized examination has always been a much debated educational issue in the United States, the validity and effectiveness of CEEs receives great attention.

Berger (2012) pointed out that the selective institutions may be using the SAT for purposes other than predicting the academic success of admitted students, because research on the correlation between students’ SAT scores and their academic achievements after entering University of California (UC) showed complicated results. It has been found that the SAT was a poor predictor of academic success at the UC, but high school grades and high school curriculum were much better predictors of academic success than the SAT (Berger, 2012). Micceri’s (2010) research yielded similar findings. Researchers have taken note of the correlations between students’ SAT scores and their socioeconomic status (Atkinson & Geiser, 2009; Berger, 2012; Micceri, 2010). Atkinson & Geiser (2009) concluded that the SAT was more closely correlated than other indicators with socioeconomic status and so tended to diminish the chances of admission for underrepresented minority applicants, who come disproportionately from lower socioeconomic backgrounds (p. 666-667). Berger (2012) also found that the UC’s data conclusively resulted in a correlation between SAT success and socioeconomic status. The study by Micceri
(2010) concluded that the use of SAT or ACT as admissions criterion appears to favor whites and males. It was suggested that ceasing to use such measures for females and minorities would be the most egalitarian admission approach given current and historical research findings (Micceri, 2010, p. 2).

In addition, a widening racial gap in the ACT performance has been found (The JBHE Foundation, Inc. 2009). Other researchers have also found that other than race, factors like gender, geographical region, high school GPA, high school rank, and so on also have impact on students’ ACT and SAT scores as well their access to higher institutions in the United States (Gandara et al., 2005; Micceri, 2010; David, 2010; Berger, 2012, Zhou, 2011). David (2010) focused on four groups of factors and the achievement gap, including: (a) student characteristics (high school GPA, attendance patterns, courses taken in high school, participation in extracurricular activities, etc.); (b) family characteristics (family structure, in home, parents’ level of education, mobility, etc.), (c) school-based characteristics (instructional strategies, class size, expectations, curriculum, staff-collegiality, etc.), and (d) socio-cultural factors (cultural attitudes, racism, differential social ‘privileges’, etc.). Because CEE tends to perpetuate education inequality, Micceri (2010) recommends that higher education institutions should not use the standardized CEE to screen females and minority students. On the contrary, other research considers the standardized CEE in the U.S. represent social justice and should be used in admission for higher education institutions. Fincher (1990) stated that “no other source produces as much relevant information about student abilities and achievement, and no other national
organizations serve the public interest in the same way as the College Board, Educational Testing Service, and the American College Testing Program do” (p. 7).

Because Chinese CEE is such a big educational, as well as social event, many researchers have attended to the problems associated with CEE in China and provide recommendations for reforming CEE (Yang, 1993; Long & Li, 2008; Zeng, 2010; Li, 2012; Ross & Wang, 2013; Liu, H. 2013; Liu, Q. 2013; & Pu, 2013). Researchers have examined the test contents, time of taking the tests, and enrollment procedures afterward the exam. Other researchers focused more on how CEE contributes to inequality among students in China (Ding, 2007; Yao et al., 2010; Qiao, 2010; Wang, H. X., 2011; Yu & Ertl, 2011; Ding & Liang, 2012; Kwong, 2013). The inequality issue covers the disparity between genders, minority ethnic groups, geographic regions, rural-urban areas, as well as socioeconomic status and familial backgrounds.

Rural-urban disparity in access to higher education in China is the most eye-catching and heated issue. Liu (2012) pointed out that enrollment rate of higher education in China achieved 15% nationwide in 2002; but the enrollment rate in rural area was just 4.1%, compared with 20.2% for the urban area. Both Qiao (2010) and Liu (2012) attribute the inequality between the urban and rural areas to the unbalanced development of the economy and the degree of urbanization in China. Qiao (2012) concluded that urbanization and the extension of administration to colleges and universities have played an important role in reducing the disparity between urban and rural areas. According to Ding & Liang’s (2012) study, the best higher education resources will accrue to cohorts with superior economic
backgrounds and higher social status, which can explain the enrollment disparity between rural and urban areas.

Disparity in different socioeconomic groups is another widely discussed issue concerning the inequality of Gaokao in China. Ding’s (2007) empirical study showed that the overall equality of higher education opportunity had improved because of the inclusion of more marginal students into lower-tier universities, but students from higher socioeconomic status have benefited disproportionately from the expansion of the elite universities. Wang (2011) also noted that manual labor workers’ and farmers’ children had less opportunity to access higher education than the children of office workers, including government officials, business executives and professionals. Yu & Ertl (2010) and Kwong (2013) attributed the reasons for this inequality to family background and parents’ education and their involvement in children’s education.

There are also a few comparative studies between the U.S. and China (Eckstein & Noah, 1989; Luo, 2006; Yi, 2006; Li, 2008; Li & Chang, 2008, Long & Li, 2008). Through the comparison of the CEEs between these two countries, the researchers compare and contrast the differences existing in the systems. Eckstein & Noah, (1989), Li (2008), and Li & Chang (2008) summarized that in contents and formats of the exams, SAT and ACT in the U.S. are aptitude tests, while Gaokao in China is achievement test. Gaokao put much more emphases on evaluating students’ high school academic achievements and rote learning than the U.S. In the area of admission standards, the researchers concluded that the U.S. adopts comprehensive
evaluation standards, but China only has one standard, which is Gaokao test score (Luo, 2009; Yang, 2013). Concerning the administrative systems of the CEEs, Li (2008), Li & Chang (2008), and Yang (2013) noticed that SAT and ACT in the U.S. are owned and administered by the private non-profit organizations, while Gaokao in China is led and administered by the government through the Ministry of Education of the PRC.

But in these existing related studies, the researchers usually failed to situate the comparative studies in the larger social contexts and analyze differences in the CEEs between these two countries. In lieu of this limitation of the existing research literature, this comparative study will situate CEEs in the larger social cultural contexts. By situating my comparative studies of CEEs in the context of the cultures of U.S. and China, this study undertakes a more in-depth inquiry into the merits and demerits of CEEs in the two nations, and examines practical and viable reform strategies.
CHAPTER III
RESEARCH METHODOLOGY

In this chapter, I first identify and explain Bereday’s main perspectives on comparative education. Next, I explain how I will apply Bereday’s “four-step” method to compare SAT and ACT in the U.S. and Gaokao in China.

Bereday’s Four-Step Method of Comparative Analysis in Education

According to Bereday (1964), the history of comparative education could be divided into three phases. The first phase spans the 19th century. It might be called the period of “borrowing.” It was believed in this period that total transplantation of one country’s education practices to the other was feasible. Then the first half of the 20th century witnessed the second phase of the comparative studies. This era could be called the period of “prediction.” Researchers began to examine the social causes behind the pedagogical scene when making cautious predictions of the likely success of transplanting one country’s practices to another country (Bereday, 1964). Lastly, the third phase of comparative education, or the period of “analysis” follow. During this era, comparative researchers put emphases on conducting “thorough analysis” in order to generate greater cultural sensitivity and “lower the barriers of ethnocentrism and thus contribute toward better international understanding” (Bereday, 1964, p. 9). Bereday (1964) then concluded that “the new historical period, that of analysis, is a
continuation of the tradition of the period of prediction, but it postulates that before prediction and eventual borrowing is attempted there must be a systematization of the field in order to expose the whole panorama of national practices in education” (p. 9).

Concerning the division of the field of comparative studies, Bereday (1964) proposed that “the field of comparative education can be breakdown into two major parts: the area studies, concerned with one country or region, and the comparative studies, concerned with many countries or regions at the same time” (p. 9). He further subdivided each study into two phases respectively. For the area studies, he stated that first there is the descriptive phase, and then followed by the explanatory phase. And in the comparative studies, Bereday stated that one recognizes first juxtaposition, and then proceeds to comparison, a simultaneous analysis of education across national frontiers. Finally, Bereday (1964) pointed out the four-step method for the field of comparative education, saying that:

First description, the systematic collection of pedagogical information in one country, then interpretation, the analysis in terms of social science, then juxtaposition, a simultaneous review of several systems to determine the framework in which to compare them, and finally comparison, first of select problems and then of the total relevance of education in several countries – these four steps point the way to the future for comparative education. (p. 28)

According to Bereday, the students of comparative education must begin with the area studies. First, one must acquire a thorough familiarity of the educational system of the selected cultural area. Hence, breadth of perception is required in this period. The other aspect one has to bear in mind is objectivity. However, Bereday
(1964) suggested that “comparative educators, whether students, teachers, or researchers, must be left a choice of being personally committed or dispassionate when evaluating evidence in other countries” (p. 11). Subjectivity plagues all social sciences (Bereday, 1964, p. 11), so the comparative educators should keep objective or dispassionate when doing the comparative studies. But according to Bereday, being subjective or personally committed is not absolutely infeasible when doing the comparative studies. Regarding to this point, Bereday (1964) pointed out that:

But if committed, they should state at the outset of their work what ideology or viewpoint they espouse. Their conclusions may then not be accepted by those who do not share their convictions, yet their work will be a meaningful primary source even to relativistically-minded scholars. Such scholars limit themselves to defining the goals and ambitions as expressed by each society and then measuring educational achievements and failures in terms of success in reaching these national goals. (p. 11)

“Description” is the first stage of area studies. A systematic collection of data is needed. Primary, secondary, and auxiliary sources should all be collected. After data collection, the final problem in this stage is how to organize the data collected. Bereday (1964) suggested that “for subsequent comparative research, students should seek the guidance of social scientists in developing carefully thought out and matched plans of study.” Since the period of “borrowing” of comparative education, educators have tended to adopt exhaustive lists of checkpoints and categories according to which education materials in each country were collected and then compared. But Bereday (1964) stated that “such comprehensive insurance against any eventuality is no longer always needed or even desirable” (p. 14-17).

Comparative students should seek collections of educational information about each
country that are already available in universities, special institutes, and ministry of education libraries. They can follow the guidance of social scientists and researchers to decide and plan the research focus of their own studies and show the data by means of a simple figure or map, or any other filing system.

The step of “interpretation” follows the stage of “description.” In this stage, the researcher has to situate all the data collected in the first step into the larger social contexts. One has to do so because there are close interrelations between education and society. Bereday (1964) stated that “to this day no school program can be adequately explained without reference to the ultimate philosophical commitment of the society it serves, nor can educated changes be compared while ignoring the historical period in which they take place” (p. 21). So this analytical step provides the opportunity for the researcher to deal with the pedagogical data with all their social relevance.

The comparative study actually begins with the third step, which is called “juxtaposition.” It aims to generalize and summarize the aspects that are comparable across the different areas or countries. The data should be reviewed with themes in mind and summed up with a hypothesis, stating the gist of the comparative analysis.

Lastly, the step of “comparison” usually has two approaches. One is the problem approach, which “enables the student the student to survey comparative evidence in small segments” (Bereday, 1964, p. 23). The other is the total approach, exposes the whole educational panorama. The aspects juxtaposed in the last step are
analyzed and compared in this stage. In addition, the hypothesis is tested through the comparison.

In short, in accordance with Bereday’s “four-step” comparative method, a comparative study should start with collecting and describing the pedagogical information. Next, the researchers should explain the information from the perspective of the larger social context, and then juxtapose the information to find the comparability, initiate the hypotheses, and summarize the data. Finally, researchers should compare the data juxtaposed and test the hypothesis initiated in the previous step. From description, to interpretation, juxtaposition, and then comparison, Bereday’s “four-step” method is a systematic comparative method, providing clear direction for a comparative study in the field of education.

This study adopts Bereday’s four-step comparative method because of its emphasis on larger social contexts. Especially in the second step, Bereday (1964) suggested that the evaluation of pedagogical data should be viewed from the historical, political, economic, and the social perspectives. In Bereday’s words, “there is no end to the interrelations between school and society” (Bereday, 1964. p. 20).

Research Method

All comparative studies must begin by extensive research literature review (Bereday, 1964). The literature reviewed for this study included related books, journals, peer-reviewed articles, as well as related online sources. I first categorized the research literature into two types: research projects completed by Chinese
scholars vs. research projects completed by researchers in the U.S. I examined data concerning the policies and practices of CEEs and researchers’ perspectives on the CEEs in the two nations. According to the content of the research literature, I subdivides them into six categories, including (a), research literature regarding Chinese CEE by Chinese researchers; (b), research literature regarding Chinese CEE by U.S. researchers; (c), research literature regarding U.S. CEE by Chinese researchers; (d), research literature regarding U.S. CEE by U.S. researchers; (e), comparative studies of the CEE in the U.S. and China by Chinese researchers; (f), comparative studies of the CEE in the U.S. and China by U.S. researchers.

Further, the literature pertaining to aspects of the CEEs in the U.S. and China includes a description of the SAT and ACT in the U.S. and Gaokao in China, and then analyzed the CEEs in the larger social contexts. The juxtaposition of the CEEs in the two nations “is designed to establish comparability or basic consistency of data” (Bereday, 1967, p. 174). Next, I initiated criteria of comparison and test hypotheses.

Based on what has been studied and reviewed, this research will compare the SAT and ACT in the U.S. and Gaokao in China from the following three main aspects: (a). the administration of the examination; (b). the standards of determining CEE test-takers’ qualification for higher education; and (c). the issue of inequality of the examination.

First, the administration of the examination is important because it sheds lights on the relationship of education to politics (Feng, 1999; Hawkins, 2000). This aspect
shows the connection between education and the nation’s politics and economy. Related questions include who develops the exam, who writes the exam questions, who decides the format and method of the exam, who decides the arrangement of the exam and enrollment process, and who decides what subjects should be included in the exam.

Second, I examine research literature concerning college admission standards in the two nations (Li & Chang, 2008; Li, 2012; Liu, 2012; Liu, 2013; Luo, 2009; Yang, 1993; Zeng, 2010). On one hand, the admission standards of higher education influence what secondary school life is like and how much effort the students put into the CEEs; and on the other hand, they represent what things the society and the education value.

Finally, I examine research literature concerning educational inequality resulting from the SAT and ACT in the U.S. and Gaokao in China (Liu, 2012, Gandara et al., 2005; Yu & Ertl, 2010; Li, 2011; Ding & Liang, 2012; Ding, 2007; Wang, 2011; Qiao, 2010; Kwong, 2013; Zhou, 2011). I specifically review research literature regarding racial, gender, regional, and social class inequality in relation to the CEEs. To understand the issue of inequality in education, one has to put it into the larger social contexts to look at the relationships between education and every aspect of the society. Undertaking an inquiry into the purposes of CEEs helps us to better understand the relationship between the exam system and the society (Li & Chang, 2008). Zhang (2010) also stated that the entrance examination plays multiple social roles and is a major influence on society.
In sum, my application of Bereday’s “four-step” comparative method in education, starts with a description of the educational phenomena of CEEs in each category, and then gives interpretations of the phenomena in the larger social contexts, and then finds the comparability. Finally, I initiate and test the hypotheses.
CHAPTER IV
COMPARASION OF THE CEEs IN THE U.S. AND CHINA

In this chapter, I compare the CEEs in the U.S. and Gaokao in China. Specifically, I focus on the administration of the exams, standards of determining the exam-takers’ qualification for higher education, and the issue of inequality resulting from the exams. According to Bereday’s comparative method in education, I first offer an overview of SAT and ACT in the U.S. and Gaokao in China. Then, I undertake a comparative study of the CEEs in the larger social contexts. Third, I generate and test hypotheses concerning the administration, evaluation standards, and inequality resulting from CEEs.

Administration of the College Entrance Examinations

CEE in the U.S. mainly includes SAT and ACT. Both of them are owned and administered by private nonprofit organizations. SAT is administered by the College Board, an association in the U.S. composed of more than 6,000 schools, colleges, universities and other educational organizations. It is developed, published, and scored by the Educational Testing Service (ETS), which is the world’s largest private nonprofit educational testing and assessment organization. It was first founded in 1947, headquartered in Lawrence Township, New Jersey. Other than the SAT, it also develops various standardized tests for K-12 and higher education, as well as
international tests including the Test of English as a Foreign Language (TOEFL), Graduate Record Examination (GRE) and some other types of tests in more than 180 countries, and at over 9,000 locations worldwide. In total, ETS annually administers 20 million exams in the U.S. and in 180 other countries (Educational Testing Service – Gale Directory of Company Histories, 2014).

ACT is administered by the American College Testing Incorporated (ACT, Inc.), which is also a private nonprofit educational research and service organization. It was first founded in 1959, and headquartered in Iowa City. Now there are approximately 1,500 members of American College Testing Inc. worldwide. Besides the ACT, it also provides other tests including ACT Plan, ACT Compass, ACT National Career Readiness Certificate, etc.

The ETS and ACT, Inc., both as private nonprofit service organizations, compete with each other under the regulations of market mechanism (Li, 2008; Yang, 2013). They organize, administer, and publish their tests independently without governmental supervision and regulation. The universities could sign cooperative contracts with them independently (Li, 2008; Li & Chang, 2008, Yang, 2013), but after more than 50 years’ development and competition, now almost all universities accept both SAT and ACT scores. In 2011, the ACT surpassed the SAT for the first time in total test takers, but there are obvious regional preferences nationwide. The ACT is more widely used in the Midwestern and Southern U.S., while the SAT is more popular on the East and West coasts. Recently, however, the ACT is being used more on the East Coast (Honawar & Alyson, 2006).
While in China, the administration system of Gaokao is totally different from that of SAT and ACT in the U.S. First, it is a national unified standardized test. Second, it is administered by the Ministry of Education. It can be said that the history of reform of Gaokao in China is actually the history of educational reform that is managed by the administrative departments of education on all levels. Under the administration of Ministry of Education, the National Committee for the Enrollment of College Students of all levels was established, including the provincial, city and county ones. Together with the Ministry of Education in China, these different levels of committees of enrollment compose the administration system of Gaokao in China. The structure of Gaokao system in China can be shown by the following figure (Feng, 1999, p. 42):
The government organizes and administers the all parts of Gaokao. All those different levels of bureaus and offices have the right to determine the time of the test, the subjects to be included, the method of the test, and the enrollment procedure after the test. In a nutshell, the administration system of CEE in China is very unified and
centralized, with the government participating in every step of the examination and enrollment.

The CEEs in the two nations both aim to select qualified applicants for higher education. The U.S. government is not involved in the administration of ACT and SAT, in contrast, the Ministry of Education in China regulates all aspects of the educational system in mainland China, including the compulsory basic education, vocational education, and higher education. The centralized educational system empowers the Ministry of Education in China to be responsible for the administration system of Gaokao.

Under this administrative structure of Gaokao in China, the government has its influence on education, through which some related political, social, and economic purposes can be realized. At the very beginning, Gaokao served as an important approach of cultivating civil officials for the country. The Ministry of Education stressed that universities’ rigid conformity to centralized uniform recruitment is the key to realizing the goals outlined in the “Guideline for Realizing the Civil Official Cultivation Plan” in 1952 (Zheng, 2008, p. 143). The college graduate at that time enjoyed the upper social status associated with pre-official employment and a guaranteed tenure. This situation did not change until the 1990s when China adopted the market economy. Although higher education no longer guaranteed job security, the college degree is still an important standard for selecting candidates for civil office (Zheng, 2008).
As the Ministry of Education takes the needs of the workforce into consideration when developing higher education policies, it inadvertently determines the method and content of Gaokao in order to select qualified candidates to meet the social needs. In 1977, Gaokao began to adopt the format of dividing humanities and science, and this method continues today. Although Gaokao is a nationwide examination in China, Gaokao does not have identical contents in all provinces. In 2002, the Ministry of Education permitted the city of Beijing to determine the format and contents of its Gaokao. Since then, many provinces also exercised their autonomy in determining the formats and contents of Gaokao. However, there is a fundamental format consistent across all exam papers, which is called “3+X”. The “3” represent the three main subjects: Chinese, Mathematics, and a foreign language (mainly English). These three subjects are compulsory for every province. The most widely used is the “3+ humanities-synthesis” or “3+ science-synthesis”. The _humanities-synthesis_ includes subjects of Political Science, History and Geography, and the _science-synthesis_ includes Physics, Chemistry and Biology. This format was derived from the Soviet Union, after the World War II, when the Soviet Union needed all types of talents to help the country with reconstruction. Their method of separating humanities from science provided a faster way to cultivate the specific types of professionals and talents (Zhu, 2011).

In addition, Gaokao in China also serves a way to promote cultural values of the nation (Zheng, 2008, 2010). Because Gaokao is such a large-scale test and appeals to the entire country, it is an effective way to cultivate social or cultural
values. In 2001, the Chinese essay section of Gaokao was about “Honesty.” Ten years later, in 2011, the same topic appeared again in Gaokao’s Chinese writing section. As a result, there has been a widespread discussion of honesty as a civic virtue.

In the U. S., the Department of Education is an equivalent entity to China’s Ministry of Education, but their functions are different in several ways. The primary functions of U.S. Department of Education are to establish policy for, administer and coordinate most federal assistance to education, collect data on U.S. schools, and to enforce educational law regarding privacy and civil rights (What we do, About ED, 2014). Unlike Ministry of Education in China, the U.S. Department of Education is not heavily involved in determining the curricula or educational standards. The CEE administration system in the U.S. is built based on the highly developed corporatization and marketization of the society (Li, 2008; Yang, 2013; Zeng, 2010). In the U.S., there is no unified curricula in secondary education across the states. It follows that there is no close relationship between the standardized CEEs and the curricula in schools (Liu, 2005). This situation provides the foundation for the private nongovernmental testing organizations to compete with each other. Thus, the ETS and ACT, Inc. have been able to assume full responsibilities for administering the CEEs in the U.S.

To a large extent, there are significant differences between the U.S. and China concerning the different types of higher education institutions. Generally speaking, there are two types of institutions, namely the public and the private higher
education institutions. Until 2011, there were 4599 higher education institutions in the U.S.; among them 1656 were public schools and 2963 were private schools (National Center for Educational Statistics, 2013). In China, by 2011, there were 2409 higher education institutions and among them 1713 are public and 696 were private (Ministry of Education of the People’s Republic of China, 2013). (See Figure 1.2 below). In China while 30% of higher education institutions are private, about 80% students attend public universities, and only about 20% of students attend private universities/colleges (Yu & Ertl, 2010).

Figure 1.2: Numbers and types of higher institutions in the U.S. and China in 2011

The large percentage of private higher education institutions leads to institutional diversity in the U.S. This makes the competition between the testing organizations possible because there is no need for unified examinations for all the universities, and each institution sets its own admission standards. In contrast, the Ministry of Education is responsible for overseeing public higher education institutions and administering Gaokao in China.

Table 1.1 below summarizes the main differences in College Entrance Examinations’ administration systems in the U.S. and China.

Table 1.1: Factors contributing to differences in CEEs’ administration systems in the U.S. and China

<table>
<thead>
<tr>
<th>Country</th>
<th>Political System</th>
<th>Economic System</th>
<th>Educational System</th>
</tr>
</thead>
<tbody>
<tr>
<td>The United States</td>
<td>Decentralized</td>
<td>Developed Market</td>
<td>Different curricula in secondary schools;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Economy</td>
<td>More private higher education institutions than the public</td>
</tr>
<tr>
<td>The People’s Republic</td>
<td>Centralized</td>
<td>Developing Market</td>
<td>Unified curricula nationwide;</td>
</tr>
<tr>
<td>of China</td>
<td></td>
<td>Economy</td>
<td>More public higher education institutions than the private</td>
</tr>
</tbody>
</table>

In the U.S., SAT is held seven times a year (January, March, May, June, October, November, and December), and ACT is held six times per year (February, April, June, September, October, and December). Students can take any of these tests beginning in sophomore of high school. They can schedule testing according to their own need; most students would take the SAT or ACT for the first time in the spring.
of their junior year in high school. If they are not satisfied with their scores, they could retake the test as many times as needed until a satisfactory score is achieved. Before graduating from high school and apply to universities, students have more than one opportunity every year to take the CEEs in the U.S. The testing agencies then send the students’ scores to universities chosen by the student upon registration for the exam. Universities then consider the students’ highest scores when granting admission. This method provides the test-takers more than one opportunity to demonstrate their ability (Li, 2008; Li & Chang, 2008; Luo, 2009; Yang, 2013).

In China, Gaokao is held once a year. Students can take the test after junior high school. Because the exam contents are related to the curricula in high school, students typically wait until after they have taken sufficient coursework in high school. Therefore, generally speaking, most participants of Gaokao in China are the high school graduates. Gaokao is the only way for students to get into higher institutions, and the score of Gaokao is the only admission criterion that the universities consider. If students earned lower scores because of some uncontrollable matter such as illness, they have to wait for a year to retake the tests.

The annual administration of the CEE in China involves most secondary school teachers as well teachers in higher education institutions. If Gaokao were held more than once in a year, the workload for teachers would have a great impact on the normal pedagogical arrangement of both secondary and higher education. In contrast, private organizations like in the U.S. have the ability to hire permanent and temporary personnel to administer more than one exam per year.
In accordance with Bereday’s comparative method in education research, after thorough review, description and interpretation of CEEs in the U.S. and China, the following hypotheses are proposed.

(1) China could adopt the U.S.’s CEE administration system.

(2) China could eliminate the humanities/science division in Gaokao.

(3) China could hold Gaokao six or seven times per year.

In what follows, I will examine the hypotheses one by one.

Hypothesis #1: China Could Adopt the U.S.’s CEE Administration System

As previously discussed, the formation of the CEE administration system is situated in larger political, economic, and educational contexts. China could not copy the U.S. CEE administration system for several reasons. First, its political system would not allow the private organizations to take the responsibility of administering the most important standardized examination in China because it would be a sign of decentralization. Gaokao is a vital tool by which the Ministry of Education in China controls and manages the direction of educational reform of the country. The Ministry of Education is responsible for determining the method and subjects of Gaokao. It is responsible for determining the admission standards, too. In short, the reform of Gaokao is the weathervane for the whole education system in China. China adopted a market economy only 22 years ago. It is doubtful that the government will be able to develop and implement well-defined policies to enable private organizations to administer Gaokao. In addition, the application of private testing organizations in China could lead to new inequality issues (Li, 2012).
Test-oriented education in China makes both the parents and students pay too much attention to the examinations, especially to the Gaokao (Song, 2011; Tang, 2013; Zang, 2012). The success of the administration of CEE in the U.S. by private organizations is closely related to its favorable regulations, legal system, social norms, and high sense of honesty (Yang, 2007). Adopting the U.S.’ administration system of CEE might result in cheating and bribery in China. Relationship (“guanxi” in Chinese) is especially important in every aspect of the social life. Lastly, the unified secondary curricula across the nation and the large number of public universities in China require the method of unified national examination.

Hypothesis #2: China Should Eliminate the Humanities/Science Division in Gaokao

Due to the competitive nature of Gaokao in China, education in high school is very test-oriented. According to the format of separating Humanities from Science, students stop studying certain subjects, usually at the beginning of junior high school. If the students choose to take the Humanities test in Gaokao, they will not be provided the subjects of Biology, Chemistry, and Physics, and vice versa. Although the government mandates that schools are required to offer all subjects to students, this policy has not been fully implemented. In addition, the students may not be motivated to study the subjects that are not included in Gaokao. This format of Gaokao results in an unbalanced high school education (Chen, 2009; Ma & Liu, 2010; Kang, 2009; Zhu, 2011). Although this format of Gaokao helped China solve its talent problems in 1970s, it does not fit for the present situation. China’s education system is changing, as well as its society and economy, and these changes
require the CEE system to change accordingly. Zhu (2011) noticed that Humanities/Science division in high school has severely affected China’s innovation and development of knowledge. Integrating Humanities and Science will help cultivate more well-rounded professionals. Today, the reform and development of Chinese society requires citizens with inter-disciplinary talents who have universal adaptability and development potential.

Hypothesis #3: China Could Hold Gaokao Six or Seven Times Per Year

Regarding to the frequency of Gaokao being held, it is not practical for China to adopt the U.S.’ method for several reasons. First of all, previous experiments of Spring Gaokao have failed in the participating provinces. In January of 2000, Spring Gaokao was held in the provinces of Beijing, Shanghai and Anhui unsuccessfully. The reasons for its failure were that the scale was much smaller than the normal Summer Gaokao, neither the secondary teachers nor the students pay much attention to it, and universities only offered very limited positions for Spring Gaokao (Zhang & Li, 2013). Most students had the idea that it was only a pilot study before the formal one came. Since there were fewer and fewer participants, the Spring Gaokao ended in 2005 in Anhui and 2006 in Beijing. Although Shanghai continued the Spring CEE the following years, only 924 participants took the exam in 2013 (Shanghai Municipal Educational Examinations, 2013). Second, the big population of test-takers makes it impossible to hold more times in one year. Above all, increasing the frequency of Gaokao requires large number of personnel and financial support to administer the tests. Third, since test contents of CEE in the U.S. have
limited connections with the secondary school curricula, the students can take SAT or ACT from sophomore year of high school. But the test contents are closely related to the high school curricula in China. Consequently, students can only take Gaokao after they have taken all high school courses. It negates the need to hold testing more than once per year. Last but not least, another issue is about the administration of higher institutions. Some higher education institutions in the U.S. enroll new students in a rolling basis, which means that students can enter the universities in fall semester, spring semester, and even the summer semester. But Chinese universities only admit students in the fall semester, which is three months after Gaokao is held nationwide. Maintaining Gaokao at once per year in June fits the system of the Chinese universities.

To conclude, there are political, economic, as well as educational factors that shape the administration of two different CEE systems in the U.S. and China. All those related factors are accommodated by China’s current CEE administration method, and the U.S.’s would not be appropriate for China.

Standards of Determining CEE Test-takers’ Qualifications for Higher Education

There are four main types of college admission standards in the U.S.: (a) SAT or ACT scores, (b) high school GPA and courses taken in high schools, (c) extracurricular activities, (d) application and recommendation letters (Huang, 2004; Luo, 2009; Li, 2008; Li & Chang, 2008; Yang, 2007; Yang, 2013).
Generally speaking, the higher the university’s rank, the higher the required SAT or ACT scores (Sheng, 2004). Thus, although the SAT or ACT score is not the only standard the university considers, it is still very important if the student wants to enter a high ranking university.

The second standard is the student’s GPA and courses taken in high school. Some researchers even consider this as the most important factor that influences higher education institutions’ decisions (Yang, 2007; Wu, 2008). To get a high school diploma and qualification to enter higher education, students have to get a “B” average in high school. That is to say from the first course in high school, students have to do their best. A “C” has to be made up with an “A”, and a “D” has to be balanced with two “As” (Huang, 2004). The stability of the student’s scores throughout their time in high school is also one of the factors that influence the university’s decision (Huang, 2004). It is better that the scores are in an increasing trend rather than declining. It is believed that this feature can help predict whether the student is likely to finish higher education once admitted (Huang, 2004; Yang, 2007). In addition, some universities will also consider the contents, the distribution and difficulties of the courses students take in high school. Based on their own cultivating directions and goals, the universities have different requirements and admission standards for applicants (Yang, 2007). Huang (2004) stated that many universities pay attention to the courses student take in high school and analyze the reasons and motivations of choosing those courses. For example, if an applicant provides a record of strong performance in science courses in high school and high
SAT Subject Test scores on Physics and Chemistry, the university would speculate that the student is not good at humanities and trying to hide this deficiency. Therefore, high school GPA and inclusive course distribution are critical admission standards.

Third, American universities also take interest in students’ participation in the extracurricular activities, such as in sports, community activities, recreational activities, science activities, as well as joining any organizations in high schools (Huang, 2004; Li, 2008; Li & Chang, 2008; Luo, 2009; Yang, 2007). It is believed that a student’s interests, strengths, and organizational ability is apparent in the organizations and activities her/she participates in.

In addition, the applicants are required to submit one application and two to three recommendations. The application usually includes an essay stating the purposes and reasons the applicant has chosen the university. Both the content and writing style are evaluated in the application. With respect to the recommendations, there are usually two types: recommendation form and recommendation letter (Yang, 2007). Recommendations are usually written by the applicant’s high school principals or teachers and focuses on the student’s characteristics and academic abilities.

Thus, the admission standards of higher education in the U.S. are very integrated and comprehensive. Academic achievement is not the only important criteria, but all other aspects are also vital in admission decision-making. In 1996,
545 students got perfect scores on the SAT; 365 of them applied the Harvard University, and among them 165 were rejected (Huang, 2004).

In contrast, the only admission standard of higher education in China is the score gained in Gaokao. According to the general situation of all the test-takers’ performance in Gaokao, the Ministry of Education classifies colleges into mainly two types: four-year undergraduate universities and three-year undergraduate colleges. The former type includes key universities, normal universities, as well as the private and independent universities; and the later includes senior college and junior college. For each level, one student can apply for five universities. The first university listed is most important; because universities will enroll students who list them as first choice. They will enroll students based on a sole standard, which is the score of Gaokao. Universities select students listed them from high to low Gaokao score. If the universities get the number of students they want from the applicants in the first choice, they will not consider those students who put them as the second or any other choices. Once a student is admitted by one university, no other universities will offer admission, which means the student can only get one offer from the university in one year. This is very different from the process in the U.S., where one applicant can get multiple offers.

While higher education institutions in the U.S. set special standards for students with special talents, China seldom does this (Yang, 2007). For example, one American university could lower its admission standard and admit one applicant if he/she have special talents in music, sports, or arts (Huang, 2004). The university
could also give special offer to children of some celebrities in order to enhance its reputation or popularity. However, these special admissions are rare compared with normal admission. In China, special admissions rarely happen; the only deciding factor in admission is scores on Gaokao.

Autonomous admission leads to the variety of admission standards in the U.S., and university autonomy is the prerequisite of autonomous admission (Liu, 2005). U.S. universities have a high degree of autonomy and the government is not involved in the recruiting process. Every university has its own freedom to choose the kinds of students they want, and every student also has the freedom to choose from the universities that have offered admission. But as have been shown earlier, the Ministry of Education oversees all universities in China and decides how the recruiting process goes and what the admission standards should be.

In 2003, the Ministry of Education has adopted an autonomous admission policy that permits some universities to recruit students independently. In 2011, 80 universities had the right to do autonomous admission (Jiang et al., 2011). These universities will hold their own examinations and interviews for the applicants, usually several months before the national Gaokao. Under such a policy the universities applied multiple standards to evaluate students’ qualification for higher education. This policy enables the universities to have more autonomy in recruiting students according to the social and market needs (Liu, 2012). However, the Ministry of Education requires that no more than 5% of students admitted can be recruited through autonomous admission. Most of the “autonomous” universities are
the top universities in China; students who applied for these universities are also top students or student with special talents or skills. Therefore, both the numbers of colleges that have the right to do independent recruitment and the students that can be admitted through this method are very limited. Generally speaking, for most candidates, Gaokao score is still the only standard considered by the universities.

Thus the hypotheses following the description and interpretation stages in this section are:

(1) China should expand the autonomous admissions approach.

(2) China should adopt multiple admission standards.

Hypothesis #1: China Should Expand Autonomous Admission Approach

Through the autonomous admission approach, universities could recruit many students who are outstanding in certain special academic fields. Likewise, students can access universities based on their own choices and special talents (Liu, 2012, p. 109). According to Han et al.’s (2011), 94% of the 59 universities that responded to a survey indicated that the students who were admitted to universities through autonomous admission continued to be successful after entering higher education, and up to 100% of the respondents believe autonomous admission is beneficial for students’ future development (p. 65).

A coin always has two sides. The autonomous admission also brought some problems to the exam system, specifically possible dishonesty and bribery may result in inequality (Gao & Zhang, 2011; Han et al., 2011; Jiang et al., 2011; Luo & Cheng, 2011; Yin, 2012). However, we should not simply dismiss or devalue this policy.
because of these problems. Gao & Zhang (2011), Jiang et al., (2011) and Yin (2011) recommended that the government should set up new regulations and improve the law reinforcement systems. Social and legal supervision on the process of universities’ autonomous admission has been suggested as measure to deal with the problem of dishonest and bribery (Gao & Zhang, 2011; Jiang et al., 2011; Luo & Cheng, 2011). Jiang et al. (2011) further recommend that the government should form a set of comprehensive evaluation standards of admission in order to improve China’s autonomous admission. The universities should be very clear on the types of talents they want when doing the autonomous admission since this is one of the most important function of this policy.

Based on the 2012 Official Education Document No. 12 of the Ministry of Education, no more than 5% of undergraduate admissions can be recruited through autonomous admission (The Ministry of Education, 2012). To make this policy to serve the Chinese education better in the future, expanding autonomous admission of universities should be one of the main reforms for Gaokao in China.

Hypothesis #2: China Should Adopt Multiple Admission Standards

The situation of Gaokao score being the only admission standard in China actually brings a lot of problems to students, high school teachers, and secondary as well as higher education in China (Luo, 2009; Liu, 2013). Students have a heavy study load and mental pressure because Gaokao score is the only standard higher institutions consider, and they have one opportunity per year. High school teachers also have heavy workload and pressure to help their students to earn higher test
scores, and their salary and bonus are closely related to their students’ scores. From middle school, teachers aim to prepare their students to be admitted to top high schools so they will eventually be admitted to better universities. Teaching to the tests is an open secret in Chinese education. Regarding to secondary education, it becomes more and more test-oriented because the Gaokao score is the only thing that enables a student to enter higher education. As for the higher education, high score on the Gaokao does not speak everything of the student. High academic achievement should not be the only thing one needs in higher education.

Multiple admission standards should be applied when recruiting, and autonomous admission of some higher institutions can be served as an approach to apply comprehensive standards. I believe that it is beneficial for the high schools to set up a record for every student, including the academic records, the organizations and activities that the student participates in during high school and teachers’ evaluations of the student’s overall performance. This record should be provided by the high school to the university to which the student applies. It offers a comprehensive evaluation of the student therefore motivating students to pay attention to every course they learn in high school and not just learn the test. Extracurricular activities should also be considered since they are part of the evaluation.

Test-oriented education in China results in students’ lacking of critical thinking and creative abilities (Song, 2011; Tang, 2013; Zang, 2012). Adopting multiple
admission standards in Gaokao system is an effective way to change the test-oriented educational environment in China.

The Issue of Inequality of the CEEs

Education has been regarded as a fundamental human right in the modern era (Wang, 2011). Although there have been numerous policies focusing on promoting equity in education, education inequality persists.

All societies share common social and educational goals, but each puts a different emphasis upon them (Bereday, 1964, p. 27). The purposes of the CEEs in the U.S. and China represent this point well. Table 1.2 below summarizes the purposes of CEEs in the U.S. and China.

Table 1.2: Purposes of the College Entrance Examinations in the U.S. and China

<table>
<thead>
<tr>
<th>Purposes of the CEEs</th>
<th>The U.S.</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessing students’ academic achievement in high school</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Selecting qualified Students for higher education</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Promoting upward social mobility</td>
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</tr>
</tbody>
</table>

First, as the bridge connecting secondary education and higher education, CEEs in both the U.S. and China functions as gatekeepers. Gaokao in China is the only way to get access to higher education. In the U.S., most universities require their applicants to take either SAT or ACT.

Secondly, both exams play a role of assessing students’ achievement in high school period, but the SAT and ACT in the U.S. do not mirror high school
curriculum as much as Gaokao in China. This aspect is especially true for the CEE in China, because the curriculum of high school is very closely related to the test contents of Gaokao. The exams are designed based on what is taught in high schools, and the curriculum of high school also changes with the trend of Gaokao reform. For example, from 2004, most provinces in China began to use the “3+3” system instead of the “3+6” system in Gaokao, and this reform had significant impact on the high school curriculum arrangement. Prior to 2004, three main subjects (Chinese, Mathematics, and a foreign language, mainly English) and six minor subjects (Political Science, History, Geography, Physics, Chemistry and Biology) are included through three years of high school. But since Gaokao reform in 2004, high school curriculum also changed. All nine subjects are provided for the first year, and then based on students’ own interests and ability, they choose three of the minor subjects for the following two years and give up the other three. Students who are interested in humanities will learn Political Science, History, and Geography; and those who like Science and Technology will be taught the other three. It is not an exaggeration to say that most high school teachers are teaching to Gaokao; they set “helping-students-achieve-higher-in-Gao-Kao” as their first teaching goal. Thus it is obvious that Gaokao functions as a way of assessing students’ achievement in high schools in China.

The SAT and ACT in the U.S. do not necessarily reflect students’ high school curriculum and achievement as much as Gaokao in China, but the tests are taken during or just after the high school period, therefore, to some extent the test results
also reflect their academic achievement in high schools. Beaudette (2014) stated that “when evaluating students’ academic achievement in high school, the SAT or ACT result should be one of the factors and evidences.” Learning and achieving are a continuous process. Even the SAT focuses more on students’ reasoning and critical thinking abilities, but arguably these abilities are changing with the process of learning and their overall scope of knowledge. In addition, some states have used the ACT to assess the performance of schools, and require all high school students to take the ACT, regardless of whether they are college bound. Therefore, to some extent, the CEEs in the U.S. also plays a role in evaluating students’ high school achievement.

However, Gaokao is known as an achievement test, while SAT and ACT are regarded as aptitude tests. One featured difference of the CEEs concerning testing content between the U.S. and China is that Chinese secondary education places a premium on rote learning, while the U.S. favors analysis, interpretation, and problem solving abilities (Eckstrin & Noah, 1989). The Ministry of Education has made efforts to restructure Gaokao by adding more test questions to assess students’ aptitude rather than achievement. Still, Gaokao remains an achievement test. This is one of the reasons that why Chinese students have heavier study load and pressure than do students in the U.S. who do not have to remember so much information. SAT and ACT are more concerned with whether the student understand and can use what they have learned.
Thirdly, the CEE in both countries has some similar social functions. On one hand, it has the function of allocating social and higher educational opportunities; and on the other hand, it promotes upward social mobility (Liu, 2013).

The supply and demand of higher educational opportunities are not always in balance for most cases in one country. Seen from present situation, the demand is higher than the supply in both the U.S. and China (Pu, 2013; Reuben & Perkins, 2007). The ranks of higher institutions also have an impact. The number of students who want to be enrolled in top universities exceeds what these universities can accommodate. Under such circumstance, the CEEs play an important role in determining social and higher educational opportunities. It appears to be an effective method to assess students’ qualification and readiness to enter higher institutions and what kind of institutions could they be enrolled in. Therefore, it functions as a way of allocating educational resources and managing the flow of students into postsecondary school activities. In general, it controls the number of students who get enrolled into universities, and in particular, it determines the students’ career opportunities.

To a large extent, the CEEs in both countries are objective assessment instruments that select qualified candidates for higher institutions. From this standpoint, Gaokao, SAT, and ACT provide all test takers with equal opportunities to pursue higher education. In other words, the CEEs as objective standardized tests are supposed to enable students from all backgrounds to pursue higher education equally and achieve upward social mobility. In a credential society, pursuing higher
education is the key to attain upward social mobility. Thus the CEE also serves as a method to promote social equality.

However, critics of CEEs in both nations argue that standardized tests are not necessarily bias-free. Scholars have done studies on the issue of inequality of the CEEs in both the U.S. and China from multiple perspectives. Gandara et al. (2005) concluded that skyrocketing tuition, shrinking capacity, and the demise of affirmative action in some states of the U.S. have all taken a toll on the hopes and dreams of many youth who are low income and minority (p. 255). In their study, Astin & Oseguera (2004) also found similar results concerning the socioeconomic inequality of access to higher education in the U.S. The analysis of three decades of the data collected from national samples of entering college freshmen showed substantial socioeconomic inequalities in who gains access to the most selective colleges and universities in the U.S. and the inequalities have increased during recent decades (Astin & Osegera, 2004, p. 338). In addition, racial diversity is another frequently discussed issue in the access to higher education in the U.S. It has been found that students belonging to minority groups are facing unequal opportunities of entering colleges due to some familial and economic disadvantages and comparatively less qualified secondary education (Harper et al, 2009; Harper, 2007; Iioh & Toldson, 2013).

With respect to access to higher education in China, similar kinds of inequality issues have also been studied by the researchers. Different social classes and minority groups are also two main factors that draw the scholars’ attention (Ding,
Comparing to the U.S., the regional inequality existing in China is much more obvious. The reasons leading to rural-urban disparity in access to higher education in China could be found in more than one area, such as the economic and financial reasons, educational factors, policies, as well as familial backgrounds (Ding & Liang, 2012; Qiao, 2010; Wang, 2011; Wang, 2011; Yu & Ertl, 2010).

In what follows, I will compare the similarities and differences existing in the issue of inequalities of the CEEs in the U.S. and China in the larger social contexts of each nation.

First, inequality exists among different ethnic groups in both the U.S. and China. In the U.S., researches have shown that due to their background and culture, the rate of admission to higher education for the Blacks and Hispanics is relatively lower than other ethnicities such as the Whites and Asian-Americans (Gandara, 2005; Zhou, 2011). Many ethnic minority students in the U.S. with relatively lower socioeconomic status have not been able to receive equitable primary and secondary education. To a certain degree, they have less-qualified teachers and less-equipped teaching facilities and learning environment because of their economic disadvantage. Furthermore, parent and family influence is another factor that impacts their opportunities to enter higher education. Research has shown that students’ academic achievement is related to their parents’ educational level and family background. Coleman (1988) suggests that students from middle and upper-middle class families with parents with higher levels of education have a distinct advantage over their
peers in entering higher education. Kwong (2013) states that students faced with different opportunities before the system of grades when taking parents’ occupations and educational levels into consideration. Through the parents’ own commitment to education they give their progeny moral as well substantive help in their academic pursuits (Kwong, 2013, p 101-102). The results of Ding & Liang’s (2012) empirical studies also show close correlation between family background and the equality of higher education. In his study, through analyses of the statistics released by the U.S. Department of Education, Pattison (2010) concludes that there is a significant positive relationship between parental education and the degree completion of the offspring, and the relationship becomes stronger as the degree becomes more advanced.

There are 56 ethnic groups in China. Han is the majority group, taking up more than 92 percent of the total population in China, the other 55 ethnic groups are considered minority groups. Due to similar reasons with that of the minority groups in the U.S., such as the lack of qualified teachers, equitable teaching facilities and family support, and lower socioeconomic status, the opportunities to access higher education for those minority groups are very limited (Li, 2011; Wu & Li, 2011). The proportion of candidates from ethnic minorities enrolled in Gaokao accounted for 6.98%, 7.43%, and 7.17% of the total enrollment in the years 2003, 2004, and 2005. Over the same period, higher education enrollment rates for ethnic groups respectively accounted for 6.86%, 7.03%, and 7.25%, showing a clear difference between the minority enrollment and total national enrollment (Guo, 2006).
To address inequality in education, China has special admission standards for the minority group members. Ethnic minority students can receive an extra 10 points added to his/her original Gaokao score. In addition, the minimum score for college admission is 20 points lower for the minority groups than the minimum for other students. In a test more than 9 million students take, 30 points can make a big difference. Students may all record the same score in Gaokao, but any minority group member will receive 30 additional points and surpass thousands of Han candidates to get into the university.

Secondly, inequality exists among different regions, including the rural versus urban, or urban versus suburban areas, and different geographical regions. The urban versus suburban disparity in the U.S. is similar to the disparity between rural and urban areas in China. The reasons that lead to the difference in China is due to the different social and economic functions different areas play in the two countries. In the U.S., people with higher socioeconomic status are more likely to choose to live in the suburban areas where there is better living conditions and environment. As the funding of most public schools in the U.S. comes from local property taxes, urban and rural schools tend to receive inadequate funding. With their parents having higher education level and socioeconomic status, the students in suburban areas are more likely to receive family support and encouragement, which has a positive impact on their academic achievements. The schools and students in the urban areas are in the opposite condition.
In China, the inequality between the urban and rural students is a result of the wider urban-rural dichotomy, which has emerged since the adoption of a market economy (Wang, 2011, p. 284). Cities in China are developing very fast but unlike that in the U.S., cities in China are not only the places for industry and working, but also the most expensive places for living. People living in the rural areas are most farmers, who have relatively lower socioeconomic status and earn less money than those who live in the cities. The reason for the gap in students’ achievement between rural and urban areas in China are akin to the influence of higher education level and socioeconomic status in the U.S.

The other source of inequality in China concerns different geographical regions or provinces. China has 34 provincial administrative regions, and there are different Gaokao minimum score criteria for different regions. The main reason that could account for this is the uneven distribution of the higher education institutions and population. For those regions where there are more universities and fewer candidates, the score line is lower. For those regions where there are fewer higher institutions and more candidates, the score line is higher. In addition, to protect the opportunities for candidates in their own regions, a university may have different minimum score criteria for candidates from their region and candidates from other regions. For example, Henan is a province with a large number of Gaokao takers every year, but higher education resources do not match the large number of candidates. So the score line for Henan candidates is always the highest every year. The situation of Beijing is the opposite of that of Henan. Under such circumstances,
if two students get same score in Gaokao, the one from Beijing can go to a top university, while the one from Henan probably can only go to a university with lower rank. Thus, Wang (2011) noted that the admission requirements are much lower in not only underdeveloped areas, like Tibet and Qinghai, but well-developed regions, such as Beijing and Shanghai.

Thirdly, tuition also contributes to inequality. Parents and students from lower socioeconomic status have much heavier financial pressure than those who are from higher socioeconomic status and richer families when facing the tuition they have to pay for higher education (Gandara et al., 2005; Liu, 2012; Kwong, 2013; Wang, 2011; Yu & Ertl, 2010). This aspect is true for both the U.S. and China because in both countries higher education is not part of the compulsory education.

To a large extent, social, historical, and economic factors have great impacts on students’ CEE scores and their pursuit of higher education in both countries. Through comparison and analysis of the purposes of the CEEs and the different kinds of inequalities existing in access to higher education between the U.S. and China, there are three hypotheses proposed in this section:

1. China should adopt a more aptitude-oriented CEE.
2. China should not use Gaokao as the primary assessment instrument to determine students’ qualification for higher education.
3. China should promote urbanization in order to reduce the educational disparities among different regions.
Hypothesis #1: China Should Adopt a More Aptitude-oriented CEE

Why do Chinese high school students experience more pressure when they pursue higher education? There are two reasons. The first is concerning the imbalance of supply and demand of higher education opportunities in China, and the second is due to the content of Gaokao. In the U.S., both SAT and ACT put more emphases on questions that assess students’ aptitude. So comparing the study load of students in two countries, Chinese students have to rely upon rote learning in order to get a satisfactory score in Gaokao. There are things that have to be remembered in every subject. But the question is that how much this could be helpful for the students in the higher education? After entering college, the memorized information that has little relation to a student’s major will be forgotten. So I believe that students’ critical thinking and abilities to learn and to solve problems are more important than just memorizing information. These abilities will surely help students to succeed in higher education. Therefore, changing from more knowledge-oriented questions to more aptitude-oriented questions should be one of the reform directions for Gaokao in China.

Hypothesis #2: China Should not Use Gaokao as the Primary Assessment Instrument to Determine Students’ Qualification for Higher Education

The entrance exam has become almost the only instrument to evaluate educational outcomes in China, thus the pursuit of a good score on the exam has become a primary objective in the teaching process; an extreme manifestation of this objective is what we often call “the unilateral pursuit of raising the number of
students entering higher education” (Zheng, 2010). To some extent, this situation has distorted broad scale educational goals. Teachers in high schools are teaching to the test. As a result, they neglect what is really important for the development of the students. One example from which we can see the case is that most high school graduates cannot speak English even though they have studied English since the third grade. The main reason is that Gaokao does not assess students’ proficiency in spoken English.

Given the importance of Gaokao score and its close relation to the high school curriculum, both the teachers and students bare a heavy burden, physically and mentally. The main purpose of Gaokao is to select qualified students for universities, so it should focus on the qualities that candidates should have to be successful in higher education, not on their academic achievement in high school. Secondary education should have its own educational goals, Gaokao might be one of them, but it should not be the only one. Regular tests in high schools could be used to evaluate students’ achievements. Above all, at the end of high school, there is the exam call “Huikao” in China, where the main purpose is to assess students’ achievement in high school.

Hypothesis #3: China Should Promote Urbanization in Order to Reduce the Educational Disparities Among Different Regions

Concerning the issue of inequality, urbanization is a fundamental step in the reduction of all disparities between urban and rural areas, including access to higher education (Qiao, 2010). Compared with the U.S., China as a developing country, its
degree of urbanization is still at a low level. This is the reason why regional inequality in China is more obvious than in the U.S. The inequality issue exists not because of the exam system itself, but related to economic factors. With the promotion of urbanization in China, education will change in rural areas, especially for the elementary and secondary education. Then the reduction of the disparity in the conditions of rural and urban elementary and secondary schools will help reduce the gap in opportunities for entering higher education.

The standardized examination system itself is supposed to be an equal system that provides a fair method to select qualified candidates for higher education, but when putting it into the different social and economic contexts, various issues like inequality appear. However, any call for equality of opportunity in higher education in the strict sense still comes to being a Utopian ideal in both developed and developing country (Ding & Liang, 2012). Compared with other ways of choosing talented people for higher education, the CEEs in both countries has its own merits and demerits. Since constructing an ideal CEE is a formidable task, I conclude that concerned educators should make concerted efforts to continue to improve the CEEs in the two nations.
CHAPTER V

CONCLUSION AND RECOMMENDATIONS

In this concluding chapter, I first summarize the main findings of the study. Then, based on the comparison of the SAT and ACT in the U.S. and Gaokao in China in the larger social context, I provide some practical recommendations for China to reform its Gaokao. Lastly, I discuss limitations of this study and present suggestions for further research.

Main Findings of the Study

First, in the area of the administration of the CEEs, Gaokao is very different from the SAT and ACT. Both SAT and ACT are administrated by private nonprofit organizations. The Department of Education in the U.S. has limited involvement in the whole process of CEE, unlike in China where the Gaokao is administrated by the government through the Ministry of Education. All levels of admission offices are organized hierarchically in China, the Ministry of Education participates in the whole process from preparing exam papers to the admission, and it plays a vital role in all steps of work.

The different administration systems of CEEs mirror the political systems in the U.S. and China. Other minor factors impacting the administration system include
economic systems and the different percentages of public and private higher institutions in the two countries.

Second, although all universities in the U.S. have autonomy in setting admission standards, only few Chinese universities have autonomy in determining their admission standards and conduct independent student recruitment. The only standard for most universities in most cases is Gaokao score.

Universities in the U.S. recruit students independently, while the Ministry of Education in China controls the whole admission process, thus a unified national standard is adopted in China. The other reason is the difference in types of higher institutions; the percentage of private universities in the U.S. is much higher than that in China, and private universities could have various admission standards based on their own needs and student talents.

Lastly, both the U.S. and China have inequality in access to higher education, including disparities in different races or minority groups, different regions, as well as in different socioeconomic groups, but China shows more distinct characteristics in regions disparities.

The inequality in society has different representations in different aspects of social life. Inequality in education is best represented by opportunities to access higher education since both countries make basic education compulsory. Even though compulsory education in China is four years shorter than that in the U.S., China has a larger disparity in regions because it is still a developing country, and the degree of urbanization is not advanced as that of the U.S. (Qiao, 2010; Pu, 2013).
In conclusion, the CEEs in the U.S. and China reflect the social, economic, and political systems of the two nations. To understand comprehensively the differences between the CEEs in the U.S. and China, it is better to situate the comparative study into the larger social contexts.

Recommendations

This research sets its focus on improving China’s Gaokao after the comparison of the SAT and ACT in the U.S. and Gaokao in China. This doesn’t simply mean that China should adopt every aspect of the CEE in the U.S. Instead, it is necessary for us to explore the reasons why differences exist and whether it is practical for us to make the changes based on the social, historical, cultural and economic contexts. Through the description, interpretation, and finally comparison of the CEEs in the U.S. and China, in what follows, I present my recommendation for improving Gaokao in China.

Eliminate Humanities/Science Division in Gaokao

As have been discussed in Chapter IV, the Humanities/Science division in Gaokao brings a lot of problems for Chinese education and the students. Secondary education should aim to lay solid foundations of basic education for the students, so it should be comprehensive. But the division of Humanities and Science fails to facilitate students’ holistic development (Zhu, 2011). It is noted that Gaokao shapes the curricular development in high schools. To facilitate students’ well-rounded development, it is critical to eliminate the Humanities/Science division. When all
subjects are included, high schools can better help students develop more comprehensively in basic education, and students will also be more motivated to learn both Humanities and Science.

It is possible that for some students eliminating the Humanities/Science division in Gaokao would create more pressure. However, there are various sources and types of burdens on students. Liu’s (2013) empirical study indicates that the pressure experienced by parents, students, teachers can stem from the objective existence of academic competition and hierarchical division of labor. The results of Ma and Liu’s (2010) survey also showed that senior high school students’ study load had little relationship with the humanities/science division. It follows that reducing the number of subjects on the exam will not necessarily reduce the burden on students (Liu, 2004; 2013).

*Increasing the Proportion of Aptitude Questions*

As discussed above, Gaokao has sustained rote learning in China. However, how much could the rote knowledge help the students in their lifelong learning? The most important thing in learning is to learn how to learn. Knowing how to learn is much more valuable than just recalling information and gaining a high score on the test. Students should be evaluated on whether they really understand the knowledge and have the ability to apply it in various conditions. Therefore, increasing the proportion of aptitude questions can help change the test-oriented educational situation and reduce students’ heavy study load.
Expanding Universities’ Autonomous Admission

Autonomous admission is beneficial for both the universities and the students. It allows universities to get the kinds of talents that they need for their own special majors or fields. As for the students, it provides alternative ways to enter higher education. In addition, their own specialties and outstanding achievements in certain fields could be shown and valued by the universities. Although certain universities already have started to recruit new students independently since 2003, the extent is still too limited in both the numbers of universities and students being allowed to admit. Therefore, expanding universities’ autonomous admission should be one of the reformations for Gaokao in China.

One problem that autonomous admission might bring to the Gaokao system concerns the equality of the exam. It is possible that autonomous admission would bring more corruption problems and thus bring a new issue of inequality to Gaokao as university personnel would have more rights in determining students’ qualifications to enter higher education (Li & Chang, 2008; Long & Li, 2008; Zeng, 2010). Still, there are valuable benefits of expanding the autonomous college admission policy. With well-defined regulations and law enforcement, it is possible to expand autonomous college admission while preventing unfair college admissions practice.

Adopting Multiple Admission Standards

Gaokao scores as the single admission standard has shaped the test-oriented educational system. However, high scores of Gaokao does not provide a
comprehensive assessment of students’ academic readiness for college. Universities should consider multiple admission standards when recruiting new students to avoid the problems that single standard admissions bring to both higher education institutions and the students. A record of high school academic achievements and extracurricular activities would be a sound and effective approach to begin this reform. Under such circumstance, the heavy workloads brought by multiple admission standards to the universities are shared by high schools. In addition, this encourages students to participate in more extracurricular activities, which is helpful in their well-rounded development. Furthermore, if the test score is no longer the only admission standard in China, but just serves as a part of it, students’ study load and pressure will be reduced greatly, and the situation of test-oriented education in secondary education will also be improved.

Limitations and Suggestions

This study chooses China’s Gaokao as the focus of attention and provides several recommendations, but the CEE in the U.S. is not flawless. Therefore, one of the limitations of the present research is that it fails to provide a more in-depth analysis of varied educational issues associated with SAT and ACT. For example, both SAT and ACT attach much importance to students’ aptitude, general reasoning ability, and critical thinking. Compared to Gaokao in China, CEE in the U.S. is not closely related to high school courses. Still, standardized tests still show a demonstrable relationship to the specific subjects taught in high schools. Thus, ACT and SAT scores are correlated with students’ mastery of academic subjects in high
schools (Berger, 2012). So further researches should focus on the CEEs in the U.S., from which suggestions of reform for SAT and ACT could be provided.

The second limitation of this study is about the research method. I adopted Bereday’s method to compare the CEEs in the U.S. and China. However, I have not conducted an empirical study to inquire into the test-takers’ perspectives of the CEEs in the two nations.

Lastly, as an international student from China, I have a better understanding of Gaokao in China than the SAT and ACT in the U.S. I participated twice in Gaokao, and paid much attention to the exam when I was in high school and even after graduating from high school because it is such an important educational and social event in China. But living in the U.S. for less than two years never taking the SAT or ACT, my knowledge and understandings of the CEE of the U.S. are very limited.

Most existing literatures and my study set China’s Gaokao as focus of attention, so I hope that future studies can focus on U.S.’s CEE and offer some reform recommendations for both SAT and ACT. In addition, this study is a literature review of the CEEs in the U.S. and China, but not based on empirical research. I suggest that more empirical studies should be done on the CEEs of the two nations. For instance, interviews and surveys can be adopted to inquire into the test-takers’ and educators’ opinions and perspectives of the CEEs of the U.S. and China. To conclude, I hope that more systematic studies on the CEEs in the U.S. and China could be done in the future, providing reasonable, practical, and applicable reform suggestions to both countries.
REFERENCES


