

# Improvement of College Entrance Examination Enrollment System Based on Fairness, Efficiency and Autonomy

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## ABSTRACT

There are some problems in the current college entrance examination and admission mechanism, such as only focusing on the total score of the college entrance examination, ignoring the specialty of the subject, the stratification and solidification of colleges and universities caused by parallel volunteer, the fairness of independent enrollment is questioned, and the wastage of efficiency. In view of these problems, this paper analyzes the evolution of the enrollment and examination mechanism of art major, puts forward the improvement scheme of the admission mechanism, including advancing the time of college entrance examination, filling in the application form according to the estimated score, making two batches of admission with one examination. It also designs the enrollment suggestions of "classified examination, comprehensive evaluation and multiple admission", so as to ensure the fairness and justice of the college entrance examination and guarantee the colleges and universities, and to improve the efficiency of independent enrollment.

**Keywords:** *College entrance examination, Independent enrolment, Fairness, Efficiency.*

## 1. INTRODUCTION

The revival of education is the premise of national rejuvenation. Since the resumption of the college entrance examination in 1977, it has gone through some reforms, such as expanding the enrollment scale, reforming the subjects of the college entrance examination, adjusting the way of voluntary filling in, and the pilot independent enrollment. Because the college entrance examination system is not only a talent selection system, but also an educational resource allocation system involving tens of millions of families, every reform has received extensive attention and heated discussion. The outline of national medium and long term education reform and development plan (2010-2020) puts forward the 12 word reform direction of "classified examination, comprehensive evaluation and multiple admission". Through efforts in recent years, classified examination and comprehensive evaluation have gradually been reformed in various provinces. However, the reform of multiple enrollment has not made much progress, and there are still many deficiencies in the current high enrollment admission mechanism, which need further improvement Necessary

and possible [1,2]. An important pursuit of education is fairness. To provide fair opportunities for the majority of people and to cultivate innovative and useful talents for the society, this should be the focus of education in the world [3,4].

## 2. THE DEFICIENCY OF CURRENT ADMISSION MECHANISM

### *2.1. Paying too much attention to the total score of entrance exam and neglecting the specialty of single subject*

The influence of entrance examination on examinees is very important [5]. Since 1977, China's college entrance examination has experienced the way of voluntary application in four stages, which are: (1) filling before the examination; (2) applying after the assessment of the score; (3) filling in the gradient volunteer when getting to know the score after the examination; (4) filling in the parallel volunteer after knowing the score of the examination.

The only thing that has not changed is that the ranking of college entrance examination is still based on the total score, which leads to an ignoring of the selection and admission of students with special expertise in mathematics, science, chemistry, literature and history. The mechanism of putting the total score of the college entrance examination into the file to encourage students to go parallelly in all subjects and develop comprehensively has restrained the students who have special expertise and interest in a certain subject to insist on the development of their specialty, which is not conducive to the development of students' personality or quality [6].

## ***2.2. The range of admission scores becomes narrower, and the colleges and universities are consolidated by layers***

From submitting the application before the examination, to fill in gradient volunteer after examination and evaluating the score, and then, to filling in the gradient after knowing the score of the examination, and till now, to the parallel application when getting to know the result of the examination, this four stage reform have made the admission score range of colleges and universities significantly narrowed, i.e., showing a convergence trend. Taking Hubei Province from 2015 to 2020 undergraduate filing score line as an example, the score line ranking of colleges and universities has almost no change after filling in the parallel voluntary program, but it causes obvious stratification of college enrollment and further solidifies the stratification of colleges and universities. From the national strategy of developing higher education, it is not conducive to the balanced development and characteristic development of colleges and universities [7,8]. This problem actually exists in other countries [9-11]. From the internal point of view of colleges and universities, the consistency of students' scores leads to the single characteristics of students in the same campus. On the sight of ecological diversity, it will affect the diversity of school culture, which is not conducive to the long-term development of the school [12, 13].

## ***2.3. The Efficiency of Independent Enrollment is Low and the Fairness is Questioned***

Independent enrollment is carried out according to the process of examinee registration, preliminary examination and publication of results, organization and publication of test results by the school, and application for college entrance examination [14]. In order to obtain more independent enrollment qualifications of colleges and universities, the candidates who meet the requirements of independent enrollment go to colleges and universities to participate in the independent enrollment examination, which wastes a lot of time,

energy and funds of students. For enrollment colleges and universities, a lot of preparation has been made for these candidates to participate in the exam, including venue, proposition, invigilation, marking, etc., but the data shows that the actual enrollment rate through independent enrollment is low. For example, in 2015, among the 90 universities participating in the pilot program of independent enrollment, 110587 candidates passed the preliminary examination, and 11107 candidates were admitted through independent enrollment, with the admission rate of only 10%. The number of students admitted through independent enrollment accounted for 2.2% of the total enrollment plan of 90 Universities in that year. The research shows that before the rural oriented enrollment program was launched in 2012, the implementation of independent enrollment intensified the inequality in the allocation of high-quality education resources, i.e., to male students, urban families, parents with higher education level, higher family income, key middle school graduates and other groups. The fairness of independent enrollment is questioned [14].

## **3. INSPIRATION FROM THE ENROLLMENT SYSTEM OF ART COLLEGE ENTRANCE EXAMINATION**

Since the resumption of the college entrance examination in 1978, the enrollment examination of Art Majors in China has experienced the evolution from completely independent enrollment system to limited independent one.

### ***3.1. Completely Independent Enrollment System, Namely "School Examination"***

"College entrance examination" is organized by the enrollment university according to the enrollment specialty. The professional examination qualification line is determined by the university itself. If it reaches the school professional qualification line, the college entrance examination volunteer qualification can be obtained. After filing, according to the art major score and the college entrance examination culture score, it is converted into comprehensive score according to a certain proportion, and is admitted from high to low according to the overall score. At the beginning, the examination subjects of the entrance exam for art majors were complicated, and they often had to pass the first examination, the second examination and even the third examination to obtain the qualification certificate. Since most of the art majors in colleges and universities only recognize their own professional examination results when they are admitted, the colleges and universities in the professional examination fight on their own, the competition of students is very fierce, and the examinees cannot bear the burden. At the same time, because there is no relatively uniform test content and

scoring standards, and there is no unified professional qualification line, so its fairness is questioned by examinees and society.

### ***3.2. Limited Independent Enrollment System, which is School Examination Based on the Results of Provincial Joint Examination.***

The Ministry of Education issued a document in 2007 clearly stipulating that each province should organize a "provincial art unified examination". According to the results of the art unified examination, candidates who have reached the batch pass line can sign up for the art school exam organized by the corresponding batch of colleges and universities. The candidates who have obtained the school examination certificate are qualified to fill in the corresponding university volunteers after the college entrance examination results are released. After putting in the files, the students can fill in the corresponding college entrance examination according to the art major scores and the college entrance examination cultural achievements performance, considering a certain proportion converted into comprehensive score, in accordance with the comprehensive score from high to low admission. As a result, the art enrollment system has changed from completely independent enrollment to limited independent enrolment [16].

The change from completely independent enrollment system to limited independent one brings at least three benefits. One is to ensure the basic fairness of the examination. The provincial joint examination for art majors is composed of unified proposition, unified marking, and unified designation of batch line, which ensures the same content, the same marking standard and the same qualification line. On the basis of passing the unified examination, the exam is organized to ensure the basic fairness of the examination. Second, it retains the right of independent enrollment of colleges and universities. Independent enrollment is an important embodiment of self-management of colleges and universities, which is conducive to colleges to select students independently and strengthen the characteristics of running schools according to their own running orientation, discipline characteristics and talent training mode. The third is to improve the efficiency of talent selection. Paying attention to the results of the provincial joint examination, the professional batch line is demarcated, and the examinees are stratified, which effectively reduces the scope of candidates' choice of colleges and universities, which not only reduces the burden of organizing professional examinations in colleges, but also significantly reduces the "onlooker" or "pussyfooter" type school test, and improves the selection efficiency.

## **4. IMPROVE THE ADMISSION MECHANISM OF COLLEGE ENTRANCE EXAMINATION BASED ON FAIRNESS, EFFICIENCY AND AUTONOMY**

Although the evolution of art college entrance examination enrollment system is not perfect, it provides beneficial enlightenment for the improvement of ordinary high enrollment system in terms of ensuring fairness, improving efficiency and ensuring the right of independent running of colleges and universities.

### ***4.1. Adhering to Fairness and Efficiency is the Premise of Improvement.***

The value-added of higher education to human capital is increasingly more significant, and the college entrance examination is a mechanism to determine whether an individual can accept higher education and what kind of higher education he can accept. From this point of view, the college entrance examination mechanism is essentially a system for the allocation of higher education resources. It is not only the main yardstick of social equity, but also an explicit reflection of educational equity. Under the background of building a harmonious socialist society, it is of great practical significance to ensure the fairness of college enrollment system in China [15]. Regarding the evolution of the art enrollment system, insisting on the provincial or national unified examination is the premise to ensure the fairness of the college entrance examination. In order to maintain the long-term vitality of the college entrance examination, it is vital to adhere to the premise of unified examination, timely and appropriately carry out diversified reform according to the needs of social and educational development, improve efficiency, and give consideration to unity and diversity. Educational equity is the basis of the legitimacy of education system and the source of the growth of educational efficiency. The improvement of educational efficiency, in turn, is conducive to the construction and improvement of educational equity. Only when educational equity and efficiency develop simultaneously, can education really make all-round progress [16].

### ***4.2. Retaining the right of independent enrollment is an important support for the characteristic development of higher education***

Colleges and universities shoulder the important functions of personnel training, scientific research, social service, cultural inheritance and innovation, as well as international exchange and cooperation. There are many disciplines and specialties in higher education, which lead to the diversity of enrollment standards, personnel training modes, graduates' employment, etc. With the diversity of social needs and the right of

independent enrollment of colleges and universities, colleges and universities can set their own selection criteria according to their own school running orientation, professional characteristics and personnel training mode, so as to better meet the characteristics of higher education development in China.

**4.3. Improvement Scheme of the Enrollment System: Combination of File Admission and Independent Selection System after College Entrance Examination**

Through the enlightenment of the evolution of art high enrollment system, the paper proposes an improvement scheme of college entrance examination based on fairness, efficiency and autonomy [17]. The overall plan is as follows: the time of college entrance

examination will be advanced one month, and the traditional volunteers will be filled in after the assessment. 90% of the enrollment plan will be accepted through the traditional voluntary enrollment, and then the remaining plan will be accepted through independent enrollment. The proportion of planned allocation can be adjusted by colleges and universities according to the pilot situation. Independent enrollment is selected according to the total score or single subject score among the batch of online candidates. The selection criteria are formulated by colleges and universities considering their professional characteristics and announced before the examination, which is relatively stable. Independent enrollment is admitted through real-time voluntary enrollment. The specific process and policy focus of the scheme can be seen in Table 1.

**Table 1.** Improvement of college entrance examination enrollment system

Event	Time	Policy focus
Colleges and universities issue independent enrollment policy	Sept. of last year	If the total score of college entrance examination is adopted for independent enrollment, it shall not be lower than the filing line of the batch, and no single subject line shall be set; if the score of single subject is adopted, the total score shall not be lower than the batch line; the number of independent enrollment plans shall be announced
college entrance examination	Jun. 6-7	Avoid the bad weather in July and set aside time for independent enrollment
The first batch of volunteers	Before Jun. 15	
Publish results and batch lines	Jun. 23 - 25	Assess the score and fill in the traditional volunteer
The first batch was put on file for the first time	Before Jul. 5	90% plan, the proportion of the plan can be adjusted and optimized year by year according to the pilot situation
The first batch of voluntary enrollment	Jul. 6 – Jul. 8	Real time dynamic volunteer; a batch of online off file candidates participate in the independent enrollment of colleges and universities. Candidates who have been admitted will not participate in independent enrollment
The first batch of Independent Enrollment	9-19 Jul.	No special circumstances, professional subject to adjustment, not back on file
The second batch of volunteers	Jul. 20th	According to the first batch process

**4.3.1. Advancing the time of entrance examination to the beginning of June**

Regarding the China's climate characteristics, high school teaching schedule and enrollment system, the college entrance examination time is advanced to the first ten days of June every year. First of all, from the perspective of climate features, most areas of China belong to monsoon climate. The monsoon reaches the northern part of South China from the end of May to June 5-10, reaches the Changjiang River Basin from the end of June to the beginning of July, and advances to the Yellow River Basin from the middle to the 20th of July. From the end of July to August 10, the monsoon will bring heavy rainfall, and most parts of China are prone to water-logging, The southwest mountainous area even often has the bad weather such as the debris flow, will produce the unpredictable risk to the examinee. While June is the early summer season, the climate is relatively suitable with less bad weather. If

the time of college entrance examination is advanced to the first ten days of June, it can avoid the challenges of bitter summer and heavy rainfall, which reflects the humanistic thought of college entrance examination management. Secondly, from the sight of senior high school teaching progress, the third year of senior high school has basically entered the stage of review and preparation. The time of college entrance examination will be adjusted from early July to early June, reducing one month of review and preparation time, which will not have a substantial impact on review and preparation. Finally, considering the enrollment progress, the college entrance examination in the first ten days of June can provide sufficient time for colleges and universities to select and enroll students independently.

**4.3.2. Filling in the application form by assessing the score**

College entrance examination volunteer is the expression of candidates' willingness to choose colleges

and universities, which is affected by personal preference, admission mechanism, college entrance examination scores and other factors. Since the restoration of the college entrance examination system, the college entrance examination voluntary filling has experienced a variety of voluntary filling methods in 4 stages mentioned above. The general trend is to allow candidates to fully express their wishes with as much information as possible. The advantage is that filling in the parallel application after the examination is helpful for high score candidates to rank in the top universities. The disadvantage lies in that some high ability students with strong school and professional preference are restrained from using the mechanism of filling in before the examination to send out signals, resulting in obvious stratification of colleges and universities. At the same time, the high score candidates can not improve their college academic performance, or even decrease. The reason for this result may be that the internal learning ability and professional interest of the students admitted by good schools after the examination are weaker than those under the mode of no parallel application before the examination. It is precisely because of the complex influence and controversy of the college entrance examination voluntary filling method on the enrollment, which makes the various voluntary filling methods coexist in various provinces and regions for a long time. For example, Shanghai did not use the "pre examination score filling" method until 2016, while Beijing, Jilin, Guangdong and some other provinces and cities have experienced many times in the two modes.

In this improved scheme, the implementation of one examination, two admissions (for a given batch), the vast majority of enrollment plans to use the assessment of traditional voluntary file admission, the rest plan to fill in the real-time dynamic voluntary (for Inner Mongolia Autonomous Region volunteer) file admission, for high score "off file" candidates to participate in college independent enrollment opportunities, to make up for the past assessment of score filling voluntary "off file" candidates slide directly to the next batch of admission defects. Students with good academic performance usually have a solid grasp of knowledge points and more accurate assessment. Those students with poor foundation or unstable performance are easy to be affected by the difficulty of the examination questions, and the evaluation deviation is large. In fact, it is an assessment of students' ability and professional interest based on their usual performance. For colleges and universities, it is equivalent to screening students by using the voluntary filling mechanism.

#### *4.3.3. The same batch with two admissions*

The same batch of two admissions means: first according to the voluntary file admission, and then independent enrollment admission.

Since 2001, the pilot program of independent enrollment has been carried out in Southeast University, Nanjing University of Science and Technology and Nanjing University of Aeronautics and Astronautics, and then gradually expanded to reach 90 universities in 2013 (13 of which are only limited to candidates from this province). Since 2015, the policy of independent enrollment has been tightened year by year, and is cancelled in 2020. The main reason is that fairness is questioned by the society and the enrollment efficiency is low.

The current admission mechanism of independent enrollment is that before the college entrance scores are announced, colleges and universities organize a special enrollment tests and publish the list of students who have obtained independent enrollment qualifications. After the college entrance examination scores are announced and the batch line is determined, priority is given to the admission of those candidates in advance, and other candidates are still enrolled according to the parallel voluntary enrollment. There are two obvious defects in this admission mechanism. One is that the acquisition of independent enrollment qualification is completely tested by colleges and universities and issued with independent enrollment qualification certificate, so fairness is easy to be questioned; when enrolling, the total score of college entrance examination is the only indicator to determine whether to meet the requirements of filing, and the single subject score is important to judge whether the examinee has certain discipline expertise basis. Second, the efficiency of independent enrollment is low. Some of the candidates who have obtained the independent enrollment qualification fail to reach the cut-off point of the college entrance examination (such as the number of scores on the provincial batch online or the number of scores in the simulated online filing of colleges and universities) and lose the opportunity of independent enrollment. Some candidates' college entrance examination scores exceed expectations, and they can apply for better schools only by their college entrance examination scores. They voluntarily give up the independent enrollment funds when filling in their applications.

#### *4.4. Advantages of the improved method of independent selection and admission*

There are two outstanding characteristics of the improved method of independent selection and admission.

First, the admission standard is based on the score of college entrance examination. Colleges and universities issue the policy of independent enrollment in September every year for the next candidates. The conditions of independent enrollment are mainly based on the results of college entrance examination. For example, if the total score of college entrance examination is adopted, there is no single subject line; if the score of single subject or several subjects is adopted, the total score shall not be lower than the batch line. The independent enrollment conditions of colleges and universities are formulated according to the characteristics of disciplines and specialties, and the students who are really interested in the major can be selected through the results of single subject, so that the enrollment of colleges and universities can be truly diversified. At the same time, the main admission standard of independent enrollment is determined in accordance with the total score of college entrance examination or single subject, which not only ensures the fairness of independent enrollment, but also helps to strengthen the cultivation of students' discipline specialty in basic education stage.

Second, the time of voluntary enrollment and admission has been adjusted to the first batch of voluntary enrollment. At this time, the college entrance examination score requirements are open, the plan is visible, the candidates' scores are transparent. Voluntary filling is carried out under complete information, and real-time dynamic voluntary filling can also be implemented. The biggest advantage of this is that through the dynamic ranking and real-time display of volunteer information provided on the Internet, candidates can not only know the application situation of other candidates, but also view their own volunteer ranking in a certain university in real time. If the ranking exceeds the number of college admission plans, they can timely modify the college volunteers, realize the accurate positioning of the voluntary filling and increase the admission probability. This change not only ensures the interests of candidates, but also guarantees the right of independent enrollment, and improves the efficiency of independent enrollment.

## 5. CONCLUSION

The improvement scheme of college entrance examination admission mechanism proposed in this paper mainly tries to solve three problems, which are also the defects in the current college entrance examination admission mechanism.

The first is to solve the defect of "Only on the total score of college entrance examination", provide more fair admission opportunities for candidates with single subject specialty, offer a "baton" for the cultivation of "talent" and "partial talent" in basic education stage, and strengthen the irreplaceable role of provincial unified

examination or national joint examination, and ensure the fairness of examination admission.

The second is to deal with the defect of hierarchical solidification caused by the parallel application of knowledge score, endow colleges and universities with the right to select students with special expertise by using single subject scores of college entrance examination according to their own discipline characteristics, and guarantee the autonomy of colleges and universities, which is conducive to the balanced development and characteristic development of colleges and universities.

The third one is to settle the shortcomings of low efficiency and questionable fairness of independent enrollment in the past, which is conducive to fair admission of more students with special expertise and promote the diversity of campus cultural ecology.

From the above three aspects and the urgency of solving them, it is necessary and important to improve the methods of independent selection and admission in colleges and universities. This scheme is mainly designed for the first batch of colleges and universities. Whether the admission of other batches is appropriate or not remains to be further discussed.

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