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Evaluating the "Program of Strengthening Basic Disciplines" from Different Perspectives

--Based on Perspectives from Sociology, Pedagogy and Economics

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Abstract: College entrance examination has always been a controversial issue in Chinese education. Many people complain that it was not fair to decide which university to attend only on the score of one test, which lacked the comprehensive quality consideration of students. Therefore, in recent years, China changed the method of university admission. Instead of the policy of independent enrollment, China launched a policy named "Program of Strengthening Basic Disciplines". Students who sign up for the policy will travel to specific top universities for written tests and interviews. Students who do well in both tests are given the privilege of being admitted to the university at a lower cut-off point. While getting into the college ultimately depends on how well students do in the college entrance examination, the inclusion of college interviews and written tests have made the whole admissions process more thorough and fairer. Because of the outbreak of Covid-19 in Shanghai, the author was unable to travel for field trips or interviews. Therefore, this paper will analyze the advantages and disadvantages of "Program of Strengthening Basic Disciplines" from the perspective of multiple disciplines based on the network data and existing papers. "Program of Strengthening Basic Disciplines" has been implemented for only two years, but its advantages are significant. However, there are still some potential risks worth noting. Therefore, this paper will try to find a better improvement direction for the program through an in-depth analysis of it.

Keywords: program of strengthening basic disciplines, educational fairness, sociology, pedagogy, economics

1. Introduction

1.1. Introduction to "Program of Strengthening Basic Disciplines" (PSBD)

1.1.1. Background of Creating PSBD

Since 2019, the relationship between China and the United States has become increasingly tense. Chinese technology companies like ZTE and Huawei have been sanctioned by the United States; the US has also blacklisted more than 10 of China's top science and technology universities. All these add up to an urgent need for China to make critical improvements in its talent development

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and technological innovation capabilities to escape the western world's multifaceted suppression of China's technology. Therefore, since 2020, the Program of Strengthening Basic Disciplines has emerged, aiming to improve the cultivation efficiency of top-notch innovative talents and serve national strategic needs.

At the same time, the contradiction between the demand of people for high-quality education resources and the inadequate and unbalanced development of a higher level of education also urges China to reform the policy of university enrollment. By 2019, a total of 40.02 million people were enrolled in higher education in China, and the gross enrollment rate of higher education was 51.6 percent. Higher education has moved from the stage of popularization to the stage of popularization [1]. However, the level of universities in China is uneven, and the overall quality of universities in China is far behind that of developed countries. The total number of degrees China can offer does not match the total demand for students. The above shortcomings also urge the Ministry of Education of China to further improve the policy of college entrance examinations. Thus, the Program of Strengthening Basic Disciplines is created.

1.2. About PSBD

The "Program of Strengthening Basic Disciplines" was initiated in 2020. It aims to select students who are willing to contribute to the development of the country's 16 basic subjects. At present, 36 top universities in China participate in the program.

According to the rules of the program, candidates are required to take not only the college entrance examination but also an exam made by the university. At the time of admission, scores of the college entrance examination account for 85 percent, while school scores account for 15 percent. The school's exam is more difficult than the college entrance exam, so it can better screen out top talents.

Students admitted to the program will enjoy the best teaching resources and learning environment in the university. At Nanjing University, for example, in addition to small class sizes, it also promises each top student a one-on-one project tutor and an annual study tour.

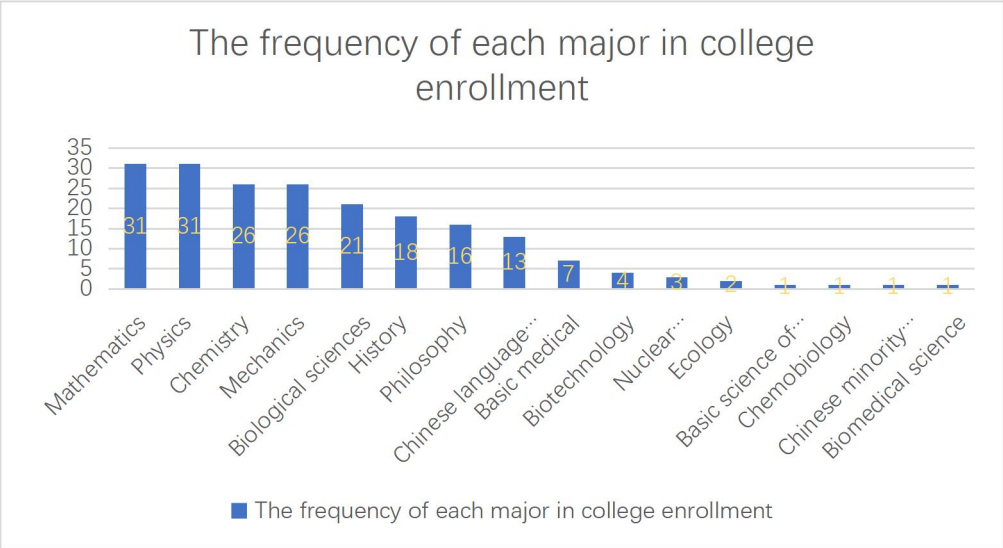

Figure 1: Frequency of offering different majors in 36 universities that joined PSBD [2].

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2. Evaluating PSBD from Perspectives of Sociology

From the perspective of sociology, the program lies in the relationship between efficiency and equity. Efficiency and equity have no contradiction in their logical relationship. However, in the implementation of PSBD policy, there are conflicts between them. the author will analyze equity and efficiency separately, and then discuss where they conflict.

2.1. More Equity, but Still Needs Progress

Before 2020, Universities in China can recruit students independently. That is, before the college entrance examination, each university will hold an external unified examination in advance, and those with outstanding results can be pre-admitted. However, the disadvantage of this is that in the process of students' competition, the school will examine the comprehensive quality of students' resumes, scientific research achievements, published papers and many other aspects. Due to the relatively weak economic strength, students in poor areas naturally lack many opportunities to do extracurricular research or publish papers, and will be naturally inferior to children from rich families in this link. More disturbingly, fraud scandals have been exposed over the past few years. For example, some students falsified their resumes, some of their scientific research results were done by others, and some of their papers were suspected of plagiarism and so on. All these factors are challenges to educational equity. As a result, the policy in the past was very unfair and lacked attention and protection for students from poor areas.

In the new PSBD policy, the advantage is that its admission method mainly depends on the national unified Gaokao scores. As the examination mechanism of college entrance examination (Gaokao) in China is extremely strict, it is almost impossible to cheat, so the fairness of college entrance examination itself is very high, and college entrance examination accounts for 85% of the whole PSBD admission process. Therefore, even if students from poor areas do not perform as well in the remaining 15% of the school's comprehensive quality examination, they still have the opportunity to bridge the gap with their Gaokao scores. At the same time, comprehensive quality considerations in PSBD are removed from scientific research, paper publication and other factors that are relatively difficult to verify their authenticity, but are transformed into more fair and reliable examinations and interviews. It can be seen that from the perspective of preventing cheating, fairness has been greatly improved in PSBD.

However, PSBD policy still has room for improvement due to the relative lack of protection measures for students from poor areas. At present, the proportion of rural hukou students who can enroll through PSBD policy is extremely small. Urban students enjoy better educational resources, while rural students need the same high scores to be admitted, so it is much harder for them to get admitted than urban students. And a fair policy should certainly take into account the differences in academic level caused by economic differences, so as to formulate more preferential policies to ensure the welfare and fairness of rural students.

2.2. Possible Higher Efficiency

In theory, the PSBD policy will have a significant improvement in efficiency, because the policy itself directly serves the strategic needs of the country. In order for China to quickly select and develop a group of elite talents in various fields, the original intention of this policy is to select these people and send them from undergraduate to graduate or doctoral degrees to become experts in the field. The PSBD policy is more purposeful and mandatory than the previous selection process, which was held solely to gain admission to a university. Students who choose the PSBD policy cannot change their major at the undergraduate level, and it is very complicated and difficult to change their major at the graduate or doctoral level. In other words, those who choose PSBD policy

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are basically students who have already determined their future career direction and are willing to devote themselves to the construction of this field. As a result, the selected students are more likely to be trained in the talents needed by the country, and efficiency will be improved accordingly.

Of course, the above is only a theoretical analysis, and it is still worth verifying whether the actual efficiency has been improved. After all, the policy has only been in place for less than three years, and there is still not enough data to know whether training is becoming as efficient as expected.

2.3. Conflicts Between Equity and Efficiency

The conflict between equity and efficiency lies in how limited resources are allocated. One of the major problems facing China today is that there is a large population base, but quality education resources are scarce. Therefore, it is up to policymakers to decide whether we should devote the best resources to those elite students who participate in PSBD and may become the national elite in the future, or reserve these resources and try to train more ordinary students to become the elite in the industry. The choice of PSBD policy is obviously the former, but some scholars believe that such excessive pursuit of efficiency is contrary to the concept of educational equity. For example, Professor Liu Zhengxian has pointed out that: “Concentrating high-quality resources on a small number of students is against educational equity” [3].

3. Evaluating PSBD from Perspectives of Pedagogy

In the field of pedagogy, there is always a debate on the merits of liberal education and specialist education. Based on epistemology, idealists aim the pursuit of knowledge with a spirit of curiosity. Utilitarianism, on the other hand, based on political theory, regards education as a tool to solve life problems, and pays more attention to cultivating people for social use.

3.1. Liberal Education

The educational model adopted by American universities is to give students general education and then let them study in a field. Although this education model can guarantee the all-around development of a person and broaden the possibility of one’s future employment path, its disadvantage lies in that many universities in China today cannot provide enough high-quality general education teaching. Such a contradictory situation makes many schools turn to the embrace of specialist education, with some implications for specialist education and vocational training. However, when we go back to China’s top universities, we can still find that general education brings many benefits to students: even for PSBD students, although they only need to master one major in the future, mastering knowledge of other disciplines is an essential skill for them in their major road. For example, the study of physics should have a sufficient mathematical foundation, and the study of philosophy should have a sufficient language foundation. The benefit of general education is to lay a solid foundation for students, and then let students move forward on a single path.

3.2. Specialist Education

Pick up where we left off. Admittedly, today’s PSBD policy smacks a bit of specialist education. From the high difficulty of changing majors and the purpose of serving national strategic needs, we can see that this policy is more to hope that students can devote themselves to research in one field as soon as possible and try to give up involvement in other fields. A physics major, for example, would probably not be encouraged to spend extra time studying languages, history, or philosophy.

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Policymakers want them to spend as much time as possible on their chosen majors so that they can become future breakthrough students for the country and contribute to society. Although such a choice pays attention to the efficiency of talent training, it is doubtful whether it is beneficial to students' learning process and whether it can let students experience the fun of learning. After all, such a choice is suspected of being too utilitarian.

3.3. Brief Conclusion of Liberal Education and Specialist Education

There is no absolute right or wrong between the two views, but a good educational policy needs to ensure that neither of the two goes to extremes. In the PSBD, students face the risk of being forced to choose specialized education -- they are required to follow their undergraduate major and are not allowed to change majors. It is also extremely difficult and complicated for graduate and doctoral students to change majors. In other words, when they choose to become PSBD students, their future career path has been basically decided. This loss of diversity is undoubtedly the disadvantage brought by utilitarianism, and it is worth considering whether the follow-up policy should properly use the mode of combining liberal education with specialized education.

4. Evaluating PSBD from Perspectives of Economics

From the perspective of economics, we will focus on whether the scale of PSBD policy is proportional to its utility. PSBD is in full swing in various regions, and more universities are expected to participate in the program in the future. However, whether enough talents can be selected to serve society deserves the attention of policy makers. If the scale of development is too large, but the actual result of a relatively small proportion of students willing to study in a field and contribute to society, the policy may not be proportional to the input and output, and loss is outweighed by the gain.

4.1. Rapidly Expanding Scale

With the further implementation of PSBD, the cultivation scale of top-notch innovative talents will be further expanded. From 2019 to 2021, China built about 260 learning bases, including about 190 science bases, 60 liberal arts bases and 10 medical bases. In order to respond to the national call and requirements, local colleges and universities must first allocate relevant teachers to cultivate, update teaching facilities and improve the teaching environment, so as to prepare for the popularization of PSBD in more learning. Therefore, the input of human, financial and material resources is huge [4].

Perhaps the epidemic has increased the anxiety of students and the uncertainty of college entrance examinations. From 2020 to 2021, the total number of PSBD applicants increased from 1.35 million to 1.87 million, an increase of about 38.5% [5]. On the one hand, this is the inevitable result of the expansion of resources and scale, on the other hand, it may also be due to some external factors. However, it is undeniable that with the rapid expansion of the scale, the number of students participating in PSBD is also increasing rapidly.

4.2. Worrying Utility

Pick up the topic from pedagogy. Even if PSBD students can't change majors, some students will still participate in the program in order to successfully enter the top universities in China. In other words, some students do not sincerely hope to study this subject in the future but participate in the project just for joining a good university. Until 2018, at Shanghai Jiao Tong University, 9 percent of the 618 students who graduated gave up graduate school; in northwest A&F University, only 76.74 percent of the 172 graduates in 2018 attended graduate school.

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It can be seen that although some students choose to further their studies, a large number of students, choose to join PSBD just to enter famous universities, and even change their major in the future. After the successful transfer of major, some students do not have a high degree of recognition of their major, the employment industry and major correlation is lower than most other majors, and the employment status and their career expectations are not high. The result is clearly unsatisfactory.

4.3. Brief Summary: Is It Worth It?

Based on the above data, it seems that the difference between PSBD's input and output is too large to be considered a successful policy. But this year's attendance is said to be down significantly (by about 50%) from last year. Although this set of data has not been accurately verified by the Ministry of Education, the percentage calculated by the media is basically accurate. In my opinion, the reason for such a sharp drop lies in the fact that after policy makers realized the problems of the policy in 2021, they increased the publicity of the original intention of PSBD, thus preventing many students from simply taking advantage of the policy to enter a good university. More students who really want to study in a field and contribute to society in the future choose PSBD and are admitted. Therefore, while the total number of people decreased, the efficiency of selection also increased due to the increase in publicity. In the long term, PSBD policy still has prospects.

5. Conclusion

Based on the above analysis, the author can find that compared with the past selection methods, PSBD policy has many new advantages, but there are also some old problems. The existence of these disadvantages has a serious impact on education equity, such as the lack of protection for students from poor areas mentioned above. From the perspective of the whole policy formulation, PSBD is undoubtedly inclined to utilitarianism and the idea that "the purpose of education is to be used by people and make contributions to society".

Such thinking is not wrong in itself, but policy makers have been suspected of pushing the policy to extremes in the past two years. For example, as mentioned above, it is extremely difficult for students to change majors, and even undergraduates are not allowed to change majors. Such a setting is too dehumanizing. After all, it is inevitable that some students will find that they are not really interested in one subject after entering the university, but find their interest and talent in other subjects. Under such a premise, it would be a pity to lose the opportunity to develop my talent due to the strict requirements of PSBD itself. Of course, policymakers are right to worry that if restrictions on changing majors are relaxed, students will once again use the PSBD as a springboard to enter a good university and quickly change their major after enrollment, thus failing to meet policymakers' urgent need to cultivate elite talents who can help the country.

In general, the PSBD policy has many advantages at present, but also has many inhumane problems to be solved. Policy makers also need to balance resources allocation and educational concepts. But in terms of the 2021 to 2022 transition, PSBD's outlook is generally bright. If the problems mentioned above can be further improved, author believes that PSBD policy will become better and better.

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