

The Stratified Teaching Mode of Basic Courses Based on the Subject Enrolment and Classified Training

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ABSTRACT

To date, the subject enrolment and classified training has been becoming a new mode of talent training and a welcoming trend of teaching reform for colleges and universities in China. In this context, to better consolidate the foundation of students and achieve the goal of "wide caliber and thick foundation" for the talent training, the mode of stratified teaching for basic courses is constructed, and the effective implementation scheme is formulated for each level. In teaching practice, the good teaching effect has been achieved. The results show that the teaching mode of stratified teaching and classified talent can make all levels of students learn something, which has a positive effect on consolidating the foundation of talents.

Keywords: *subject enrolment; classified training; stratified teaching; basic course*

1. INTRODUCTION

There are some drawbacks in the original college entrance examination enrollment system and personnel training mode, with the deepening of higher education reform in China. When students fill in the college entrance examination, because they are not clear about the training direction of each major, especially the similar majors, they often choose a certain major blindly, and there are a large number of professional changes after entering the University. The specialty of some colleges and universities is set too detailed and single and even face the structural contradiction of lagging behind or unsuitable, which makes the students not suitable for the market demand for "generalist". At the same time, due to the increasingly fierce competition in colleges and universities, the survival of the fittest has become the normal survival and development of colleges and universities, so it is inevitable to adjust the enrollment scale of some majors, resulting in the shortage or redundancy of teaching staff and affecting the construction of disciplines and specialties. In addition, the gap of students' enrollment foundation has gradually widened, which objectively brings many new problems to teaching, resulting in the phenomenon that the talent foundation is not solid enough. Under the long-term planned economic system, the college entrance examination enrollment system and the production of "standardized" talent training mode have been unable to meet the diversified needs of society for talents, but also affect the quality of talent training.

2. REFORM THE TREND OF TALENT TRAINING MODE

2.1. Subject Enrolment and Classified Training

How to train talents according to the "wide caliber, thick foundation, strong ability and high quality" and how to take effective measures to cooperate with the reform of talent training mode have become the hot spot in the reform of undergraduate education system in colleges and universities, and also a new topic in front of every higher education worker. In view of the disadvantages of traditional talent training mode, in the late 1980s, Peking University first proposed the mode of "large class enrollment and separate training", which was then adopted by more and more domestic universities such as Tsinghua University, Fudan University and Beijing Normal University. Internationally, the United States, Germany, Japan and other countries also have similar training mode of major categories of teaching [1]. At present, as a new talent training mode, the mode of "large class enrollment and separate training" is gradually adopted by colleges and universities in China, which is also the inevitable trend of reform.

2.2. Connotation of Subject Enrolment and Classified Training

The subject enrolment and classified training is a reform of "general education" in colleges and universities. That is to say, students are recruited according to the specialty disciplines rather than specialty when they are admitted to

the college entrance examination. After two years of basic courses learning and obtaining corresponding credits, the students are divided into different specialty according to the students' interests and the principle of two-way selection, and then the professional study is organized according to the follow-up professional training program until the students graduate.

2.3. Advantages of Subject Enrolment and Classified Training

2.3.1. Suitable for choosing a specialty

The students' self-planning ability is required to be higher in the enrollment and diversion training of specialty categories. Compared with the previous enrollment according to the specialty, the enrollment of specialty categories gives freshmen more autonomy. The students should be clearer about their own needs, hobbies and strengths, have a clear self-positioning, and also better understand the specialty development and future direction [3]. In the first two years of the subject enrolment and classified training, there is no division of specialty; all students study the same basic course together. While learning the basic courses, the students can understand the relevant information of some specialty and social demand for talents cultivate their own interest for specialty, and calmly choose the specialty they like. In this way, the students can avoid blindness in choosing specialty and change their specialty again after entering the university.

2.3.2. Conducive to resources integration

It is beneficial to integrate teaching resources and improve teaching quality. On the one hand, enrolling students according to different categories and training by different branches can better play the role of commanding and coordinating the overall teaching process of colleges and departments, which is conducive to the integration of teaching resources such as teachers, equipment and so on. On the other hand, from the training requirements of "thick foundation and wide caliber", colleges and departments should broaden the specialty coverage and construct new discipline system and curriculum system, which is conducive to the continuous integration of teaching resources and the improvement of teaching quality.

2.3.3. Beneficial to subject construction

It is conducive to promote the construction of disciplines and specialties. It is necessary to open up the basic curriculum of adjacent specialty under the specialty categories of disciplines and realize the organic integration

of similar specialty, so as to further promote the reform, adjustment and optimization of specialty[2].

3. STRATIFYING TEACHING TO CONSOLIDATE FOUNDATION

With the reform of education system, China's higher education has changed from elite education to the coexistence of elite education and popular education. Under the background of subject enrolment and classified training, great changes have taken place in the enrollment structure of colleges and universities, and the basic gap of students entering the university is gradually widening, which objectively brings many new problems to teaching. Only by taking effective measures and strengthening the talent base, the goal of "wide caliber, thick foundation, strong ability and high quality" in talent training can be achieved.

3.1. The necessity of Stratified Teaching

3.1.1. Social needs

From the perspective of social demand for education, the society needs not only engineering and technical talents who can quickly accept new knowledge and new technology, but also scientific research talents with deep theoretical research and high-tech development. Therefore, society requires universities to have both mass education and elite education. This also leads to different requirements for talent base. At present, the quality requirements for students of different specialty have been diversified and multi-level[4].

3.1.2. Teaching needs

From the perspective of the recipients of education, with the increase of enrollment scale, the basic level of students in Colleges and universities is uneven. In addition, the students' learning objectives are guided by their specialty, often based on "useful" or "useless", and the interests of individuals in basic courses are different, which make the internal needs of college students to basic education form a natural stratification. Because of the growing difference between students' learning base and interest, they concentrate on a large class, which inevitably brings many contradictions to teaching. In the teaching process, no matter what teaching method teachers take, they will lose their own consideration. The students with good foundation "can't eat enough", or the students with poor foundation can't eat. Teachers can't take care of students at all levels. Now, students who are "not satisfied" hope that the school can provide them with more learning opportunities and prepare for the future postgraduate

examination. However, the "can't eat" hope that the school will also provide them with more opportunities to meet the basic requirements of teaching and pass the examination smoothly.

3.1.3. Talent needs

In order to solve these contradictions, many colleges and universities have begun to try stratified teaching in the basic course teaching, and achieved certain results. According to the actual situation of our school, we think it is necessary to carry out stratified teaching for freshmen, in order to achieve different teaching methods and teaching requirements for students with different foundation, so that students with good foundation and willing to learn can learn well, while students with poor foundation can also promote them to meet the most basic teaching requirements and ensure the cultivation of qualified talents.

3.2. Principle of Stratified Teaching

The stratified teaching is to put people first and divide students into different levels according to their basic differences, to teach students in accordance with their aptitude, so that students at all levels can get an ideal education and learn something. Through different teaching methods, students with poor foundation can "eat it all", and finally basically meet the basic requirements of teaching, while students with better foundation can "eat well" and consolidate their learning foundation. Therefore, stratified teaching is not to give up students with poor foundation, but on the contrary, it is to take care of their learning, so that they can successfully meet the standards of talent training.

The following principles should be considered in the process of stratification:

3.2.1. Basic consistency

The students with the same basic level can be assigned to a level according to their college entrance examination scores and the key score lines (special control lines) of various provinces and cities. This can give full play to the teacher's guiding role and avoid delaying other students by taking care of some students.

3.2.2. Satisfying personalized needs

The students' interests and hobbies is fully considered, which is very important for students' learning. Considering the students' interests, hobbies and abilities, their personality can be better developed; some students can turn their interests into learning motivation to improve their academic performance; at the same time, other students can

put more energy into other aspects of development to meet the personalized needs of students.

3.2.3. Conducive to for talent development

Based on considering the above principles, appropriate adjustments should also be made according to the requirements of the specialty for the foundation, so that the basic courses taken by students must meet the minimum requirements of their specialty, otherwise, the purpose of setting up the course will not be achieved.

3.3. Scheme of Stratified Teaching

3.3.1. Setting up teaching levels

The stratified teaching is not only to divide teaching classes into different levels, but also to pay attention to the levels of teaching links, including teaching materials, teaching contents and teaching methods. At present, colleges and universities generally adopt to divide the teaching class into three levels, namely Level-1, Level-2 and Level-3.

Level-1. According to the characteristics of students at this level who have a good foundation and are willing to engage in scientific research and technological development, we have further broadened and deepened some basic contents based on completing the undergraduate teaching content, so that students can master certain methods and thinking deeply. The teaching method of heuristic and problem discovery is mainly used in the Level-1, which focuses on enlightening thinking, developing ability, and appropriately increasing the content of self-study. By enriching the teaching content, the Level-1 cultivates talents with higher basic quality, so as to meet the specialty needs and students' individual needs, and lay a solid foundation for students' further study in the future.

Level-2. The students at this level are the main body of students. Level-2 teaching is based on the syllabus of engineering students, adopts a relatively unified teaching arrangement, lays emphasis on laying a solid teaching foundation for students, and creates strength for further development in the future. The teaching method of level B focuses on improving the quality of classroom teaching so that students can firmly grasp the knowledge they have learned.

Level-3. The foundation of students at this level is weak. In order to improve the quality of teaching, teachers with rich teaching experience should be arranged to teach. At the same time, corresponding assistant teachers should be equipped to do a good job of tutoring, answering questions and exercises, and appropriately increase the teaching hours. Teaching aims to train students who can accept new technology and knowledge quickly and apply them to their specialty. The teaching method of the Level-3 focuses on

the explanation of the basic content, adopts the methods of "from easy to difficult" and "intensive teaching and more practice", strengthens the practice of typical exercises, and pays attention to the cultivation of students' learning methods.

3.3.2. Assigning students

In the stratified teaching of basic courses, to arrange each teaching level, we should consider the total score of college entrance examination and the corresponding subject score, and combine with the special control line of students' location. To make students have a similar foundation at the same level, we can draw up a "stratified index" to measure students' comprehensive ability. The stratified index is composed of "potential index" and "subject index", which can be calculated from the total score of college entrance examination and the score of various subjects, it is the weighted average of the two. This stratified index can basically reflect the comprehensive ability of students, the higher of the stratified index is stronger than the lower. Here, potential indicator is equal to total score / special control line * 100, subject index is equal to subject score / special control line * 500, and stratified index is equal to (potential index + subject index) / 2.

3.3.3. Dynamic adjustment

There should be a certain incentive mechanism in carrying out stratified teaching. In the second half of the first year, according to the students' learning differences, the students' mastery of the knowledge will be re stratified. In principle, students with good grades will be better than those with poor grades. In this way, each student has a fair competition opportunity, which greatly enhances the students' sense of competition and sense of crisis, turns the pressure in learning into motivation, and stimulates students' learning enthusiasm.

3.4. Effect of Stratified Teaching

According to the current situation of students and the results of basic courses in the past two years, the number of excellent students in basic courses is less than 20%, and less than 20% of them pass the basic courses. Therefore, the basic courses can be divided into teaching classes according to the ratio of 2:4:2, which is basically consistent with the requirements of three levels of Level-1, Level-2 and Level-3, so as to achieve good teaching purposes.

During the implementation of stratified teaching, the students of different levels can learn something. Their academic performance is constantly improving, the pass rate of the basic course is significantly increased, and the failure rate is decreased. The annual postgraduate entrance examination rate of students also increased steadily, with an average growth rate of 15%. The number of students

who take part in the competition has increased from 500 to 200 each year. The quality and quantity of students' awards have made a qualitative breakthrough, and the number of awards increases by an average of 13% every year. In the past five years, 247 students have won prizes in the Beijing and national undergraduate mathematics competition and mathematical modeling competition, including 28 national competition awards and 219 Beijing municipal awards.

3.5. New Problems in Stratified Teaching

Stratified teaching is one of the aspects of teaching reform in colleges and universities. It aims to improve teaching quality by adjusting teaching mode and optimizing teaching configuration under the condition of original teachers and students' level. Stratified teaching is a new teaching mode, which inevitably brings many conflicts to traditional teaching management. Therefore, this reform not only needs to mobilize the enthusiasm and subjective initiative of teachers, but also needs the joint efforts of all parties in the school. Because teaching management is the necessary guarantee of all kinds of work in teaching, the first thing to bear the brunt is the impact on teaching management. In order to achieve the goal of stratified teaching and achieve the expected effect, the teaching management should also be adjusted accordingly, such as student status management, credit records at different levels, registration of examination results, scholarship evaluation and other policies, as well as corresponding attendance and school discipline policies, so as to meet the needs of teaching mode change and ensure the expected effectiveness of stratified teaching.

4. CONCLUSION

In the reform of higher education enrollment system and training mode, it is an inevitable trend to subject enrolment and classified training. Aiming at the problem that the gap of students' foundation is widening gradually, adopting the training mode of stratified teaching and classified talent cultivation can effectively consolidate the foundation of talents, and better realize the goal of "wide caliber, thick foundation, strong ability and high quality" of talent training.

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