

## Employment Status and Countermeasures of Normal Universities'

### Students Majoring in Mathematics

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**Abstract:** With the popularization of higher education and the continuous deepening of higher education reform, the employment situation of normal universities' students majoring in mathematics has become extremely severe. This paper objectively analyzes the current status of employment, such as the gradual adjustment of the national enrollment policy and the socialization of Teacher's Qualifications Certificate Exam as well the outmoded employment concepts of normal universities' students majoring in mathematics, resulting in their difficulty to adapt to the current employment. Meanwhile, combined with the dilemma encountered by normal universities' students majoring in mathematics in current employment, some problems in the cultivation and employment of normal universities' students majoring in mathematics are discussed, including correcting normal universities' students' wrong employment concepts, strengthening the practical training and the teacher quality training.

**Keywords:** Normal Universities' Students Majoring in Mathematics, Teacher's Qualifications Certificate Practical Teaching Teacher Qualities Current Status and Countermeasures

Recently, the *Action Plan for The Promotion of Teachers' Education (2018-2022)* issued by five ministries including the Ministry of Education proposes that, in five years, a group of high-level and distinctive teacher education institutions and the normal major should be well established, and the training system of teachers should be basically completed, the teachers' moral education should be significantly strengthened, the content of teachers' training should be continuously optimized, and the overall quality, professionalism and innovative ability of teachers should be significantly improved to provide outstanding teacher resources and talents support for the development of higher quality and more equitable education.

In order to achieve this goal, regarding the current imbalance and insufficiency in the development of teacher education, the *Plan* puts forward the innovative teacher education mode and the training of outstanding teachers in the future from five dimensions including teacher education mode, and the role of normal universities; as

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well as five significant assignments including giving play to the main role of normal colleges and strengthening the establishment of teacher education system.

The *Plan* puts forward new requirements for the normal universities' students' training in normal colleges, and also provides guidance for solving the current employment issues of the normal universities' students. This paper will start with the current status of training and employment of normal universities' students majoring in mathematics, and explore ways to improve the employment condition of normal universities' students majoring in mathematics.

#### I. The Current Status of Training and Employment of Normal Universities' Students Majoring in Mathematics

1. The number of teachers to be enrolled through open recruitment has decreased. Although there is bigger demand for mathematics teacher in each school, in recent years, the quotas for open recruitment of graduates majoring in mathematics by city-level, county-level and above schools have been decreasing year by year and those schools tend to select incumbent teachers from basic-level schools. Therefore, the open recruitment is mainly for village-level and town-level top schools. At the same time, with the cancellation of "the established status" for teachers, the scope of open recruitment will be further narrowed.

2. The impact of tuition-waiver normal college students. Starting from 2007, the inclusion of tuition-waiver normal students from normal universities affiliated to the Ministry of Education into recruitment plans and starting from 2012, the inclusion of tuition-waiver normal students from Sichuan province into recruitment plans, have caused a great impact on common normal students. Since the tuition-waiver normal students are under the oriented training, according to the agreement, most of the tuition-waiver normal students from universities or colleges affiliated to the Ministry of Education will be employed by schools at or above the city level, while most of the tuition-waiver normal students from universities or colleges affiliated to a province will be employed by schools at county level or below. Therefore, the employment situation for the common normal students is getting worse.

3. The Impact of Non-normal Students' Entry Since the implementation of a national unified teacher qualification certificate examination in 2015, more and more non-normal students can obtain the teacher qualification certificates through examination to enter the teachers' position. But students majoring in science and engineering in comprehensive universities, especially those majoring in mathematics and applied mathematics, though have not been rigidly trained in their teaching qualities, have a stronger ability of using, understanding and exploring mathematics knowledge, a very important aspect schools currently emphasize.

4. Bottlenecks in Pursuing Postgraduate Education Under the influence of public recruitment and system of free normal education, taking postgraduate exams and pursuing a higher education become the first choice for a large part of students. But faced with the conflict of the increase of students pursuing postgraduate education and the non-expanding graduate enrollment scale, the conflict between the choice of teachers' skills training and the preparation of postgraduate examination, the conflict between the practice teaching and the preparation of postgraduate examination and the

conflict between the teacher qualification certificate examination and the preparation of postgraduate exams, rate of students attending postgraduate examination will be inevitably affected if these problems cannot be effectively solved.

## II. Employment Countermeasures of Normal Universities' Students Majoring in Mathematics

1. Strengthen education of employment view. Most normal colleges and universities are located in non-central cities, where the graduates have weak employment consciousness and lack corresponding career planning. On the one hand, schools can create employment atmosphere through corresponding courses and special lectures, while on the other hand, they should encourage students to focus on employment information and situation as well as the impact of national policy adjustments on employment as early as possible.

2. Correct the wrong concept of normal universities' students majoring in mathematics. In recent years, influenced by various aspects of policy regulation, various types of private schools have mushroomed while the demand for mathematics teachers from various types of private training institutions has also increased. However, most students are still subject to "the established status" and rejective to enter non-public schools, which directly reduces a lot of job opportunities. Thus, it is necessary to change the employment view of normal students ideologically and make them realize that mathematics teaching is a technically strong job, and that they should not be limited to the nature of the work unit.

3. Strengthen the quality training of teachers. After the comprehensive implementation of the National Examination for Teacher Qualifications, the difference between normal university students and comprehensive university students lies in the four-year ongoing training of teachers' qualities in normal universities. The development of mathematics teachers is similar to that of other subjects, decided by the level of teacher's quality. Moreover, the major manifestation of teacher's quality is the teaching skills. During the entire university, the training of Standard Mandarin and Three Calligraphy was continuously conducted to strengthen the teachers' language arts training. Another aspect of mathematics teachers' difference from other subject teachers is that they have conducted systematic test training of the college entrance examination and senior high school entrance examination to improve the ability of solving problems. It should be perceived that the vast majority of normal universities' students majoring in mathematics are science students so they have obvious deficiencies in the knowledge and cultivation of the humanities and social sciences. In order to adapt to the professional requirements of teachers' positions as soon as possible, strengthening the humanities culture is also an effective way to improve the employment competitiveness of normal universities' students majoring in mathematics.

4. Attach importance to the training of practical teaching. Teaching practice is an important approach to correlate the theory with practice for normal universities' students. The teaching practice of normal universities' students majoring in mathematics includes language ability training, lesson presentation and class

simulation training, teaching observation activities, educational probation, educational internship, and post internship. It is an effective way to overcome the lack of language expression ability of normal universities' students majoring in mathematics by carrying out language speech ability training and mathematical problem comment training. From 5 minutes of micro lessons to 20 minutes of class simulation training, on the basis of the instructive teachers and group cooperation discussion, outside experts are hired to comment so that the mathematical normal university students refine their lessons constantly and become familiar with the whole process from lesson preparation to teach. It is also necessary to adhere to the observation teaching of primary and secondary schools in each semester, and to understand the process of mathematics teachers from preparing lessons, teaching and reviewing to correct assignment, and to know how to choose appropriate teaching methods according to the student condition. Through one week of educational probation, two months of educational internship, and one semester of post internship, students are provided with practical opportunities, so that they can have strong practical skills when they graduate, enabling them to quickly become the core teacher after entering their work position.

### III. Conclusion

In fact, employment difficulty of normal universities students majoring in mathematics is still weaker than that of other subjects, but it still needs to start from the training stage to help them achieve the employment with high-quality and high starting point. On the one hand, it needs to guide students in career planning so students can analyze the subjective and objective factors that affect their employment objectively, and then supplement themselves during the university. On the other hand, it is an important focus for improving the training system of normal universities' students to attach importance to and enhance the practical teaching inside and outside the school of normal universities' students majoring in mathematics.

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