

Analysis of the relationship between academic achievements and employment status of master graduate student in subject teaching (Mathematics) in normal universities of China

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Abstract

With the method of survival analysis, the relationship between the curriculum scores and employment status of 57 students of the Subject Teaching (Mathematics) major in a normal university was studied. The results showed that the public basic courses, professional basic courses and professional elective courses have little effect on the employment situation. Therefore, in order to promote students to get a job as soon as possible, it is suggested to reform the curricula of Subject Teaching (Mathematics) in normal university comprehensively, through the study of the postgraduate course, students' employment skills can be improved and students can be employed smoothly.

Keywords: master graduate student, subject teaching (mathematics), normal universities, employment, survival analysis

1. Introduction

Establishing a qualified and stable teaching group in sufficient quantities is a fundamental plan to improve the level of basic education. The establishment of the master in subject teaching (mathematics) degree in China has opened up channels for primary and secondary school teachers to obtain postgraduate degrees. The purpose is to train educational management cadres and key teachers who have high theoretical literacy and practical ability (Mo, 1995) [3]. However, due to the saturation of teachers' posts, the diversification of teachers' sources, the treatment of teachers, the threshold of entry, and the changes in ideas, the employment situation of master graduate students in subject teaching (mathematics) is very severe (Wu, 2018) [7]. Therefore, assisting the students with successful employment has become a top priority.

2. Literature Review

In order to promote the employment of the master graduate students in subject teaching (mathematics), many people have started from the curriculum reform and made many studies. For example, Lin Yanping proposed to strengthen the interface between modern information technology and teaching, so that students can get rid of traditional blackboard teaching and master a variety of teaching methods, such as micro-teaching based on new media, flipping classroom based on MOOC+SPOC+, self-learning mode based on the Internet, etc. Zhu Aiwu believed that it was necessary to add a curriculum to cultivate the core literacy teaching skills of students to meet the new requirements of the core literacy of Chinese students and the core literacy of high school subjects. Wang Na suggested that the master in subject teaching (mathematics) is a professional master's degree, and its practical application is particularly important. It is necessary to reform the teacher education curriculum of higher normal colleges, enrich the pre-service teaching theory of normal students, increase the practice links, and focus on the cultivation of practical ability (Zhu, 2019; Wang, 2018; Lin, 2019; Pei & Xu, 2018; Shi, 2019) [8, 6, 2, 4, 5].

It is undeniable that the above researches provide a good idea. However, it is obviously not comprehensive. For example,

there is no research on the relationship between students' curricula grades and their employment status in the current study. Actually, this kind of research is important for that it only let teachers and researchers clearly understand the influence factors of the employment but also help the students to arrange the curricula and class schedules according to the priority so as to correctly guide the master graduate students in subject teaching (mathematics) to get a job.

3. Method

3.1 Sample

A total of 57 graduates in Subject Teaching (Mathematics) at the School of Mathematics and Statistics of a Normal University in China were selected as the sample.

3.2 Method

Firstly, the aforementioned academic performance scores are integrated into three kinds of grades of public basic courses, professional basic courses and professional elective courses. Secondly, we analyzed the relationship between these three categories of results and their employment situation in July by the method of survival analysis.

3.3. Data Analysis

With the help of SPSS software, the survival analysis of the above three variables were carried out (Li & Ding, 2008) [1].

4. Results

4.1. The impact of academic achievement on employment

4.1.1. The impact of the original score on the employment situation in July

Using the Cox function to analyze the three variables and the employment situation, the result is as shown in table 1.

Table 1: Regression of three original score variables

Variable in the equation						
	B	SE	Wald	df	Sig.	Exp(B)
Public basic courses	.007	.165	.002	1	.967	1.007
Professional basic courses	-.144	.198	.531	1	.466	.866
Professional elective courses	.304	.168	3.259	1	.071	1.355

4.1.2. The impact of grades on employment in July

Each of the above three kinds of grades was divided into four levels of the excellent, good, medium and poor, which were

represented by 1, 2, 3, and 4 respectively. Then we use the Cox function to analyze the three variables and the employment situation, the result is as shown in table 2.

Table 2: Regression of three grade score variables

Variable in the equation	B	SE	Wald	df	Sig.	Exp(B)
Grade 1 (public basic courses)	-.042	.728	.003	1	.954	.959
Grade 2 (professional basic courses)	.757	.638	1.406	1	.236	2.131
Grade 3 (professional elective courses)	-.840	.588	2.041	1	.153	.432

As can be seen from the above two tables, the absolute value of the coefficient B of all variables is less than 1, which means that the three variables of the above original score and the three variables of the grade scores have little effect on the employment situation. The associated probability is greater than 0.05, which indicates that the above variables have no significant impact on employment.

4.1.3 Survival function image of employment time

Use the drawing function of the Cox function to draw the survival function image and make an intuitive observation. The result is shown in figure 1.

employment situation of students is not optimistic during the employment period from February to July.

6. Conclusion

From the above analysis, it is known that the above courses settings have little impact on the employment situation. It is recommended that it is necessary to carry out targeted arrangements of courses and class hours to enhance the role of these courses in employment, shorten employment time, improve teaching methods, help students to better receive professional knowledge, and acquire professional skills to better adapt to employment.

7. Acknowledgement

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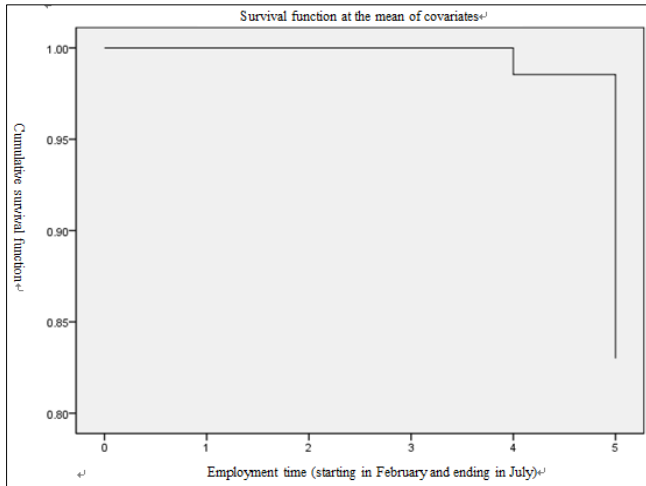


Fig 1: Survival function image of employment time

This is a figure of the survival function at the mean of the covariates with the employment time as the horizontal axis and the cumulative survival function as the vertical axis. As can be seen from the figure, as of June, only about 2% of the students have been employed. As of July, the number of employed people has increased, and nearly 17% of the students have successfully employed. This shows that the number of students employed in the employment period starting from February and ending in July is not high, and the employment situation of students is not optimistic.

5. Discussion

From the results of the above Cox regression calculation, it can be seen that the above courses have little influence on the employment situation, and there is no significant regression relationship with whether or not employment, which indicates that the students' employment has little to do with the school performance.

It can be seen from the survival function image that as of July, the number of students employed is less than 20%, which indicates that under the influence of the course results, the