

Research on the Characteristic Model of Survival and Development Behavior of Math Teachers in Higher Vocational Colleges Based on Big Data Technology

Xiaoxue Nan^{1,*}

¹Chongqing Vocational Institute of Engineering, Chongqing, China

*Corresponding author e-mail: xiaoxuenan_2008@163.com

Abstract. With the implementation of the national "double high education program", the living environment and training conditions of teachers in various disciplines have become an important field of education system reform. At present, due to the imperfect construction of teachers' salary system and training mechanism, teachers in higher vocational colleges still face many difficulties in their survival and development, which seriously limits the implementation effect of the "double high education program". Therefore, it is particularly urgent to study the survival and development of teachers in vocational colleges. This article takes mathematics teachers in vocational colleges as the research object, and describes the current situation of the survival and development of mathematics teachers in vocational colleges. On this basis, this paper uses the refined computer big data technology to construct the survival and development behaviour characteristic model of mathematics teachers in vocational colleges, and discusses the feasible strategies to ensure the quality of survival and development of mathematics teachers, which provides a solid theoretical support for the smooth implementation of the national "double high program".

Keywords: Higher Vocational Colleges, Math Teacher, Survival and Development, Feature Model, Big Data Technology

1. Introduction

In order to build a number of higher vocational colleges which lead the reform and support development, and promote the integration of production and education, the state has put forward the "double high plan" for higher vocational colleges. The plan not only explicitly points out that it is necessary to cultivate and introduce a group of professional group construction leaders with authoritative industry and international influence, but also indicates that a high-level teacher team with sufficient quantity and



reasonable structure should be built according to scientific standards. However, there is still a big gap between the level of teachers and the "double high" requirements. The overall level of teachers is not high, which has become the bottleneck of high-quality development in higher vocational colleges. Therefore, we must conduct in-depth research on the survival and development status of teachers in Higher Vocational Colleges to ensure the implementation effect of the "double high program".

2. Investigation on the Survival Condition of Mathematics Teachers in Higher Vocational Colleges Based on Big Data Technology

2.1. The survival pressure of mathematics teachers in higher vocational colleges is great

In the eyes of ordinary people, mathematics teachers in higher vocational colleges should be the "three high" group with "high level of knowledge, high economic income and high social status". However, the group of teachers in vocational colleges is faced with confusion and hardship that people do not understand in their work and life and bear greater pressure^[1]. The pressure of teachers is various, and the most prominent one is work pressure. According to the survey, many young teachers have been assigned a large amount of teaching workload as soon as they enter the school. They spend most of their time in class. In the rest of the time, they have to prepare lessons and take internship and practice activities. Only when these tasks are completed can they achieve their workload and receive subsidies. Otherwise, they will be deducted if they cannot be completed. Young teachers will face life problems before and after they enter the job. In addition, local higher vocational colleges generally have low salaries and young teachers have low professional titles. Therefore, many pressures in life directly restrict their development. Figure 1 shows the salary level of mathematics teachers in vocational colleges. The dual pressure of work and life has affected the physical and mental health of teachers, resulting in the poor professional survival state of young teachers and the high degree of job burnout.

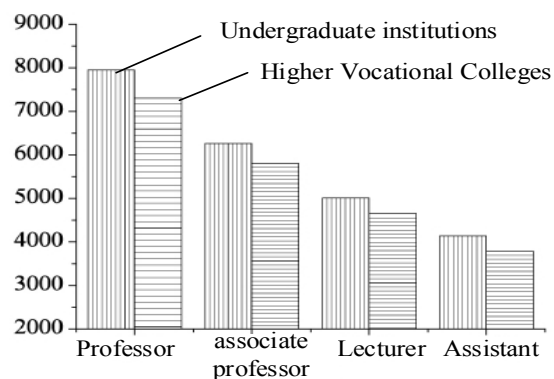


Figure 1. The salary level of mathematics teachers in higher vocational colleges.

2.2. The sense of belonging of mathematics teachers in higher vocational colleges is not high

In higher vocational colleges, there is a common phenomenon that young teachers' work enthusiasm is not high and development motivation is insufficient^[2]. This is because in the early stage of career development, many young teachers do not find their own value in teaching and school, and lack of psychological sense of belonging. There are many reasons for this phenomenon. First, vocational education has been ignored or formalized, which has missed the critical period for the formation of young teachers' sense of belonging. Second, the low income level affects the young teachers' confidence in teaching. Survey statistics show that the low income level is the most important reason for teachers'

turnover intention. Thirdly, the position of mathematics teachers in scientific research is on the edge, which frustrates their enthusiasm.

3. The Professional Development Status of math Teachers in vocational colleges

3.1. *The Research Status of Mathematics Teachers in Vocational Colleges*

Scientific research is another important work of mathematics teachers in higher vocational colleges. However, busy teaching makes teachers unable to devote themselves to scientific research, which leads to the unclear direction of teachers' scientific research. They often have to wait for the publication of subjects related to their major before applying. Some large projects often require applicants to have certain professional titles^[3]. Once mathematics teachers can not grasp the suitable opportunities such as youth fund, they will easily fall into the "dead circle" that no project can evaluate the title and no title can not be rated as a project.

3.2. *The training Status of Math Teachers in Higher Vocational Colleges*

Training is another important part of teachers' professional development. At present, many schools require that the assessment of professional titles must be linked with overseas study experience. For a large number of young teachers, there are few opportunities for further study and training, and there is the little possibility that they want to be sent out through the school^[4]. Young teachers themselves can not find opportunities for further training. Even if they do, most vocational colleges are reluctant to let them go because they have more teaching responsibilities.

3.3. *Vocational recognition of mathematics teachers in Higher Vocational Colleges*

Nowadays, post-90s students are the main students in vocational colleges. The students have their own personality and ideas^[5]. Because of the lack of rich teaching methods and teaching experience, young math teachers tend to make the course boring and less communicate with students. Students bow their heads and are busy playing with mobile phones and tablet computers, which leads to the phenomenon that teachers are willing to teach and students are not willing to learn. The sense of existence and authority of young math teachers in the classroom decreased significantly, and the professional recognition of teachers decreased significantly^[6]. In addition to teaching, young teachers are often arranged with other teaching related or even unrelated chores. This phenomenon makes young teachers, especially those who are recruited with high education background, feel that they are no different from ordinary secretaries, office workers and other staff, and their professional recognition of teachers is greatly reduced.

4. Construction of mathematical teachers' survival behaviour characteristic model and career development strategy in Higher Vocational Colleges

4.1. *Survival behaviour feature model based on big data technology*

In order to improve the quality of survival and development of mathematics teachers in vocational colleges, we must first clarify the comprehensive impact of various factors on them. To this end, Therefore, this paper uses the refined big data technology to collect the survey data of mathematics teachers in vocational colleges in detail, and constructs the behaviour characteristic model, as shown in Figure 2. It can be found from the model in Figure 2 that the factors that affect the survival and development of math teachers in vocational colleges mainly come from three aspects: salary level, promotion channels and professional recognition. Therefore, this article will focus on these three aspects

of analysis and find feasible measures to improve the quality of survival and development of math teachers.

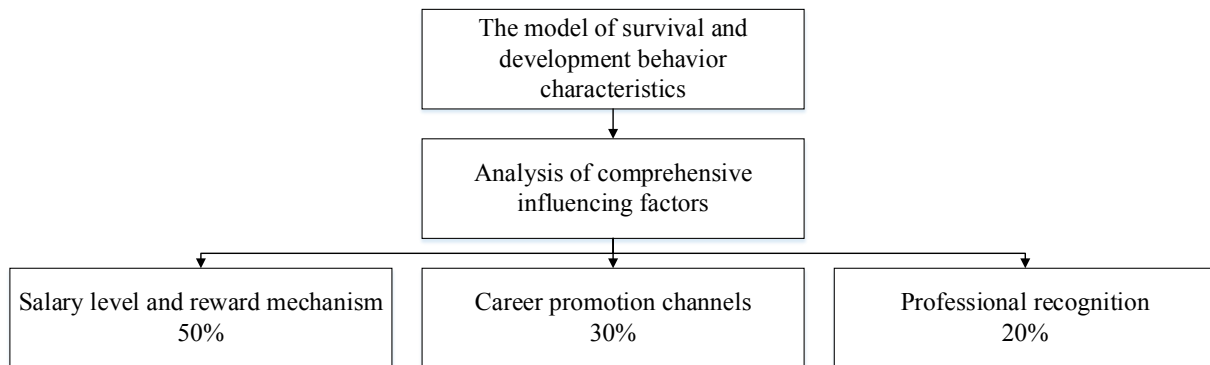


Figure 2. Mathematical teachers' survival and development behaviour characteristic model

4.2. Vocational development strategy of mathematics teachers in Vocational Colleges

(1) The education department should optimize the salary system. Some colleges have the problem that teaching tasks are assigned to old teachers and the actual teaching work is carried out by young teachers. Therefore, in addition to teaching work, teaching related work should also be included in the workload and included in the allowance. In addition, in order to cultivate a high-quality and stable team of mathematics teachers, vocational colleges should not only pay attention to the important role of mathematics teachers in the development of teaching and education, but also focus on supporting young backbone teachers. At the same time, according to the different characteristics of mathematics teachers, we should understand the different needs of teachers and improve the incentive mechanism of teachers. Teachers' performance evaluation should combine the results of managers' evaluation, peer evaluation, students' evaluation of teaching and teachers' self-evaluation to form an effective mechanism for scientific evaluation of work results and working process.

(2) Education departments and schools should provide diversified career development channels for mathematics teachers. Teaching, scientific research and further study are the main tasks of mathematics teachers in higher vocational colleges, so these aspects should also become the main aspects of professional title evaluation. Due to the limitation of practical factors, the conditions of mathematics teachers are often limited. Therefore, higher vocational colleges should provide more training opportunities for mathematics teachers, such as the fund for young teachers, the combination of independent and public education, but these should not be the whole of the title evaluation. In addition, tutoring students to participate in competition awards, participating in research projects in research groups, and organizing related teaching activities should also be included in the evaluation of mathematics teachers' professional titles.

(3) Higher vocational colleges should correctly treat the reasonable demands of math teachers. Math teachers have a wealth of ideas. They work at the grass-roots level of the school and are closest to the students. Therefore, the school should try to meet the legitimate demands of math teachers and help math teachers improve professional recognition. In addition, some math teachers have insufficient awareness of their careers. They believe that entering a school with a high degree of education should have high income and easy working conditions. Therefore, higher vocational colleges should not ignore the ideological and moral education of math teachers, but should help them establish correct values and

a comprehensive understanding of their own professions.

5. Conclusion

Through the research in this article, we can find that due to certain defects in the system construction of vocational colleges, math teachers are facing many pressures on the salary system and promotion channels, and their survival conditions are worrying. The high-level teaching team is the key link to ensure the effectiveness of the "Double High Plan". Therefore, the education department and vocational colleges should further improve the teacher's salary system and provide teachers with a variety of career promotion channels. At the same time, we should also pay attention to the reasonable demands of math teachers and optimize the conditions of teachers' survival and professional development, so as to ensure the development level of higher vocational colleges to move forward to a higher level.

References

- [1] Yonghua Zhang. Research on the development dilemma and Countermeasures of local university teachers under the background of application-oriented transformation [J]. Education and teaching forum, 2020 (21): 36-38.
- [2] Li Meng, Zhongxia Zhao. A review of the research on the survival situation of young college teachers [J]. Journal of Jilin University of education, 2018,34 (02): 48-51.
- [3] Dijing Hao, Zhigang Yan. Perspective on the survival and development of young university teachers [J]. Education and occupation, 2014 (28): 16-23.
- [4] Jihong Wu. Research on career planning of young college teachers [J]. Cooperative economy and technology, 2016 (24): 142-143.
- [5] Zaihan Fu, Jianhong Huang. Case study on the development of young teachers in Colleges and universities [J]. Journal of Guangxi Youth Cadre College, 2016,26 (05): 70-73.
- [6] Libo Tang. Construction of training mechanism for young teachers in private colleges and universities [J]. Higher education exploration, 2015 (03): 82-85.

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.