Retraction

Retraction: Research on the Promotion Path of Teachers’ Scientific Research and Innovation Ability based on Big Data Analysis of “Double High Program” Construction (J. Phys.: Conf. Ser. 1744 042093)

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This article has been retracted by IOP Publishing following an allegation that raises concerns this article may have been created, manipulated, and/or sold by a commercial entity. In addition, IOP Publishing has seen no evidence that reliable peer review was conducted on this article, despite the clear standards expected of and communicated to conference organisers.

The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Research on the Promotion Path of Teachers' Scientific Research and Innovation Ability based on Big Data Analysis of "Double High Program" Construction

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Abstract. Under the national vocational education reform, HVC (hereinafter referred to as HVC) begin to implement the "double high program", which is an important measure to promote the rapid development of vocational education. Among them, the improvement of teachers' scientific research and innovation ability is an important part of the "double high program", which is a solid foundation for the quality of personnel training. The 21st century is the era of big data, which requires HVC to improve teachers' scientific research and innovation ability based on big data analysis. At present, there are many problems in HVC, which need us to improve teachers' comprehensive ability. Firstly, this paper analyzes the basic principle of big data mining technology. Then, it puts forward the factors that restrict the development of teachers' scientific research and innovation ability. Finally, this paper puts forward some suggestions, which can better build a higher vocational college research and innovation ability promotion system.

Keywords: Big Data Analysis, Double High Plan, Scientific Research And Innovation Ability, Improvement Path

1. Introduction
"Double high plan" is a plan to build high-level vocational schools and specialties with Chinese characteristics, which is an important part of the national vocational education reform implementation plan. Vocational education and general education are two different types, but both have the same important status. According to the goal of vocational education reform in China, by 2022, the teaching conditions of vocational colleges need to meet the standards, which will lead to the transformation of a large number of ordinary undergraduate colleges and universities into application-oriented schools[1-3]. With the rapid development of information technology, big data has become an inevitable measure of all walks of life, including the "double high" construction of HVC. In the process of "double high" construction, HVC not only need to improve teachers' teaching innovation ability, such as MOOC, micro class, flipped classroom and other new teaching methods[4-6]. Teaching needs to submit their own research and innovation ability, which will better promote the reform of education. At present, big data technology has been widely used in the process of education, which not only promotes the
comprehensive coverage of high-quality education resources, but also shortens the differences in the allocation among different regions. In the context of the "double high program", we must comprehensively improve teachers' scientific research and innovation ability, which will give full play to the comprehensive ability of students.

2. Related concepts of big data analysis

2.1. The process of data mining
Data mining provides a way to get value from data. The general process of data mining consists of translation data, preprocessing data and data modeling. Translation data can transform the original data into recognizable data format. Then through the data input, we can complete the data selection and sampling, which realizes the value selection of the original data. Preprocessing data is the initialization of data, which will improve data quality. There are many common data preprocessing methods, such as data filtering, data variable conversion, missing value processing, etc. Data modeling is a multi-dimensional analysis of preprocessed data. By establishing mathematical model, we can mine information data. The general process of data mining can be shown in Figure 1.

![Figure 1. General process of data mining.]

2.2. Big data processing system
The technical framework of big data is mainly data preparation, data storage, calculation and processing, data analysis, etc. The processing system of big data are shown in Figure 2.

![Figure 2. The big data processing system.]

3. Research and innovation ability of Higher Vocational Teachers
This paper is based on the field survey. 500 formal questionnaires were sent out, 483 effective questionnaires were sent out, and the effective rate was 96.6%.

3.1. Poor comprehensive ability
At present, most of the HVC are newly established after the upgrading of junior colleges, and some of them are private HVC, which makes the overall education level of teachers in HVC lower. Therefore, the comprehensive ability of some teachers is poor, which is an important factor restricting the improvement of teachers' scientific research ability in HVC. According to the survey results, the main
problem is unstrong scientific research ability, accounting for 68.6%. The second is Heavy teaching tasks, accounting for 56.4%. Details are shown in Figure 3.

### Figure 3. Poor comprehensive ability.

#### 3.2. Lack of scientific incentive mechanism

The main source of teachers in HVC is undergraduate or graduate students. They have a short internship time in school. Therefore, the combination of theory and practice of some teachers is not close enough, which will cause the quality of professional personnel training is not high. Therefore, it is difficult for higher vocational students to adapt to social needs. Although some vocational colleges also adopt flipped classroom, modular teaching and other teaching methods, but some teachers lose their teaching passion, which is difficult to effectively improve the overall teaching quality. According to the survey results, the main problem is lacking of evaluation system, accounting for 64.6%. The second is old teaching methods, accounting for 54.9%. Details are shown in Figure 3.

### Figure 4. Lack of scientific incentive mechanism.

#### 4. The way to improve the scientific research ability of teachers in HVC

##### 4.1. Innovation of school enterprise cooperation mode

The teachers' quality is the basis of scientific research. Practical learning is an effective way to improve the level of scientific research, which will play a positive role. Therefore, teachers in HVC should take the cooperation between schools and enterprises as the platform. Through the enterprise to carry out technical exchange and production learning, teachers can master the direction of production technology development, which will improve the teachers' scientific research orientation. By promoting the level of scientific research, vocational colleges can improve the quality of teachers with double teachers, which will improve the practical operation ability and scientific research ability of teachers. Through the cooperation with enterprises, teachers can go to the front line of the enterprise...
practice activities, which requires the enterprise registration exercise into the assessment and promotion of teachers in the evaluation standards. By innovating the mode of school enterprise cooperation, we can improve the attraction of enterprises to participate in the cooperation between schools and enterprises, which will create a team of teachers with higher scientific research ability.

4.2. Reform the management of scientific research team
By building a high-level scientific research team, we can attract the R & D platform and funds of the enterprise. In the process of applying for scientific research projects, HVC should give priority to the joint projects of interdisciplinary and multidisciplinary. By encouraging the cooperation of multi-disciplinary teachers to solve the key problems, we can attract experts and technical personnel from outside the school to participate in scientific research, which will change the research from basic to innovative. Through the reform of the management of scientific research team, we can ensure the value of the research direction. Through the development of social service activities such as technical skills training, skills appraisal and development of production, learning and research projects, we can improve the level of teachers' scientific research, which will improve their social service ability and social influence.

4.3. Improve the incentive mechanism
HVC should create a relaxed academic environment and atmosphere, which is an important way to stimulate and cultivate teachers' scientific research and innovation ability. Only in a relaxed academic environment can teachers improve their ability of autonomous learning and research. Only by constantly generating the motivation and enthusiasm of innovation, can higher vocational teachers continuously enhance the academic atmosphere of scientific research and innovation. Colleges and universities should strive to create a strong academic atmosphere, which will strengthen and expand the communication and exchange in the academic field. By strengthening the construction of scientific research echelon, we can continuously increase the practice and experience of scientific research activities. HVC should establish a set of scientific research evaluation system, which will objectively and fairly evaluate teachers' scientific research ability and achievements. Therefore, HVC should reasonably allocate scientific research funds, such as investment, distribution and reward, which will better motivate teachers. Therefore, HVC must improve the incentive mechanism, which will improve teachers' enthusiasm for scientific research.

5. Conclusion
In the process of implementation and construction of the plan, HVC must create a large number of full-time and part-time teachers of high-level, which will better improve the teaching quality and level of HVC.

Acknowledgments
Research on the construction of the system of scientific research innovation ability improvement in Higher Vocational Colleges Based on "High level higher vocational school and specialty construction plan with Chinese characteristics"—Take Gansu "High level higher vocational school and specialty construction plan with Chinese characteristics" construction colleges as an example.

References
[1] Chen Min. Research on the construction of first-class teachers in HVC under the background of "double high" construction [J]. Ship vocational education, 2018 (4): 65-68.
[2] Gao Shanshan, Cheng Yi. Research on teaching reform of information technology in Higher Education [J]. Knowledge economy, 2019 (12): 126-128.
[3] Hou Zhibin. The cultivation and promotion of Dong Jianmin's teacher's information ability [J]. Education modernization, 2019 (5): 231-232.
[4] Sun Xiaolei. Integration and innovation of information technology and education teaching in
[5] Zhao Xueyao. Research on the improvement of teachers’ information teaching ability in HVC [J]. Vocational and technical education, 2018 (16): 41-46.

[6] Zhu, Li. Study on the strategies of improving teachers’ information-based teaching ability in HVC [J]. Jiangxi chemical industry, 2019 (6): 262-265.