

# Research on the construction of scientific research management system in Vocational Colleges

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**Abstract:** the construction of scientific research management system plays a decisive role in the development of the connotation of vocational colleges. In the development of vocational colleges, we should coordinate the relationship between teaching management and scientific research management, practice the teaching centered Scientific Research concept, build a scientific and perfect scientific research management system, and improve the scientific research ability of vocational colleges. Based on the background of the new era, this paper deeply analyzes how to reasonably construct the scientific research management system of vocational colleges, improve the core competitiveness, and strengthen the management mode of high quality, high efficiency and characteristics.

**Key words:** vocational colleges; Scientific research management system; Scientific research level

In the construction and development of vocational colleges, scientific research ability always represents the teaching level of the school. Vocational colleges should seize the opportunity of the new era, improve their teachers' scientific research ability with perfect scientific research management system, and make achievements in their professional fields; With a scientific scientific research management system, further stimulate teachers' enthusiasm and innovation ability in scientific research, reasonably evaluate the scientific research projects of various specialties, improve the scientific research level, and highlight the talent training advantages of Vocational Colleges.

## 1 The role of improving the scientific research management system in Vocational Colleges

A perfect management system is the key to ensure the orderly operation of vocational colleges. Formulating systematic requirements for scientific research management of vocational colleges is conducive to improving the "four skills" service ability of vocational college teachers and improving the contribution of vocational colleges to the regional economy. This paper analyzes the role of the construction of scientific research management system in Vocational Colleges from the following perspectives.

### 1.1 From the perspective of vocational college operation

In order to ensure the effective operation of Vocational Colleges and enhance the core competitiveness of vocational colleges, we must improve the scientific research ability and level of the school. Formulate a scientific and perfect management system, refine the requirements of scientific research management, plan the scientific research management process, make full use of the scientific research resources of vocational colleges, improve the scientific research enthusiasm of school teachers with a pragmatic and efficient evaluation system and reward and punishment system, implement the scientific research work in the construction of relevant specialties of the school, simplify the establishment process of scientific research projects, and improve the quality and efficiency of project approval, To achieve the goal of effectively controlling the cost of scientific research and reasonably allocating the scientific research resources of the University.

### 1.2 From the perspective of educational resources in Vocational Colleges

The scientific research management level and scientific research achievements of vocational colleges are important observation points for schools to accept various evaluations, and also the key indicators of school influence evaluation. Different from the management concept of other scientific research institutions, scientific research originates from teaching, and the concept of scientific research nurturing teaching should always be implemented in the scientific research work of vocational colleges. Improving the scientific research ability of the school and then optimizing the educational resources with the scientific research level is the starting point of all scientific research work in vocational colleges. While paying attention to the continuous optimization of educational resources through scientific research, the university should fully tap the potential of talents and equipment in the University, strive to promote cooperation with cooperative enterprises and scientific research institutions, improve the ability of resource acquisition and resource sharing, and achieve win-win results.

### 1.3 Optimizing the perspective of scientific research

Scientific research activities need to collect a wide range of professional data and materials. The establishment of scientific research management system in vocational colleges is conducive to optimizing the scientific research process and providing data support and guarantee. After the establishment of scientific research projects, the relevant departments of the university should do a good job in the preliminary investigation, collect relevant scientific research information, select scientific research backbones to establish professional scientific research teams, increase the investment of scientific research funds, establish a large-scale and gradient scientific research team from the perspective of scientific research management, clarify the scientific research direction and highlight the scientific research focus.

## 2 Construction strategy of scientific research management system in Vocational Colleges

### 2.1 Standardized management of scientific research

The construction of scientific research management system in vocational colleges must follow the principles of standardization and standardization. All departments, relevant teachers and teams of the school must strictly implement the management system according to the requirements of standardization, and complete the relevant scientific research work according to the standardized process. Combined with the relevant processes of scientific research work, the relevant requirements can be refined as follows.

1. Scientific research projects shall be applied for approval. In order to improve the efficiency of scientific research management, the applicant must clarify the requirements for the application and approval of scientific research projects, clarify whether the research projects meet the requirements for the application of projects in vocational colleges, reduce the cumbersome process in the application, and improve work efficiency. After the application is completed, the academic committee of vocational colleges or relevant experts shall be organized to conduct project demonstration. The perfect system of scientific research project application and approval not only saves the application time, but also improves the accuracy of the project.

2. Scientific research management system. Once the scientific research project is established and approved, the project team members begin to promote the project research in a planned way. In the management work, first of all, it is necessary to strengthen the inspection of the implementation of the project. The scientific research management inspectors of vocational colleges should regularly understand the completion of the scientific research project, whether the scientific research project is innovative and competitive in the actual development, and then give guidance and support according to the actual situation. Secondly, we should deeply understand whether the scientific research project is creative in the experiment, whether there are practical difficulties in the current scientific research work, whether there are problems in the management of scientific research team, and whether there is a lack of scientific research materials and resources.

3. Academic exchange system. The scientific research work of vocational colleges is not done behind closed doors. It is necessary to grasp the latest scientific research achievements in relevant fields in time, and it is necessary to collect relevant professional data and materials. It is an effective way to expand a wide range of academic exchange channels between Vocational Colleges and scientific research institutions, cooperative colleges and cooperative enterprises. Create favorable conditions for the scientific research work of talents in Vocational Colleges through academic exchanges, strengthen learning and training, and regularly participate in academic exchanges.

### 2.2 Improve the scientific research management system

First of all, vocational colleges should clarify their own scientific research direction and objectives, coordinate the cooperation of various departments of the school, and work together to complete the scientific research work. Establish the responsibility system of subject leader in each scientific research project team, vigorously select the scientific research backbone, and the scientific research backbone will lead the project team members to complete the established scientific research work in an orderly manner. The scientific research management department of the University shall formulate scientific research plans, complete scientific research guidance and other overall work, clarify the direction for the scientific research work in the University, and each scientific research project team shall specifically implement the relevant scientific research tasks and contents. Secondly, vocational colleges should establish a scientific scientific research evaluation system, fully mobilize the enthusiasm of the talents in the school for scientific research, promote the academic research work at the grass-roots level, and attract more teachers to actively participate in various scientific research projects. The scientific research management department of the university can implement effective classified assessment and evaluation according to different types of scientific research projects. For example, improving the reward scheme for scientific research achievements in Vocational Colleges and offering comprehensive and effective rewards according to the actual scientific research contribution can greatly enhance the centripetal force and cohesion of scientific researchers; At the same time, the university should introduce the system of relevant horizontal topics, vigorously encourage scientific research talents to cooperate with enterprises, improve the conversion rate of scientific research achievements, and realize the social value of scientific research work. Finally, vocational colleges should formulate relevant management systems for scientific research management intellectual property rights, strengthen the protection of intellectual property rights, protect the scientific research achievements of vocational colleges, and improve the management system to ensure that school teachers complete scientific research work in a fair environment.

### 2.3 Establish information management system

With the development of science and technology, information technology has been widely used in various fields. The scientific research management department of vocational colleges should also expand the Internet and big data thinking, improve management awareness, establish information management system, build digital scientific research service platform, and optimize the scientific research management mode of Vocational Colleges with modern scientific management means.

First, establish a scientific research information release platform to realize the sharing of relevant information and effectively improve the efficiency of scientific research. Relying on the scientific research information platform, it can provide the application information of

various scientific research projects at all levels in real time, query the latest policies and trends related to scientific research activities, and share the scientific research achievements and scientific research achievements transformation information in a certain region. By mastering the most advanced and cutting-edge scientific research dynamic information, integrating and analyzing the information and data, teachers can explore the latest professional scientific research development fields, and then conduct in-depth subject research combined with practical hot issues. On the one hand, teachers can cultivate their own spirit of inquiry and innovation, on the other hand, teachers can further clarify the specific follow-up scientific research projects.

Secondly, establish a scientific research service platform, which takes scientific research topics as the main line and funds management as the starting point, controls the whole cycle management of scientific research at the macro level, and pays attention to the monitoring of scientific research process at the micro level, so as to realize the dynamic control of the whole process, whole elements and whole cycle of scientific research activities such as topics, funds and achievements, and bring convenience to teachers' scientific research work, Promote the scientific development of scientific research management. The scientific research service platform can be divided into two parts. The first part is to establish a service platform for teachers' scientific research teams in vocational colleges, which has strong service functions. It implements integrated service management for the basic information of the project, expert information, scientific research topic declaration, scientific research topic approval, scientific research content inspection, project conclusion, scientific research funds use and other contents, so as to improve work efficiency, Relevant information and review progress can be quickly and accurately found in the service platform. Through the scientific research network, informatization process management can be realized. Teachers can accurately query various scientific research information in the platform and upload relevant scientific research process data and achievement data. The second part is to establish a school enterprise interactive service platform to build a bridge between demand enterprises and vocational colleges for technology development, technology consulting, technology transfer and the provision of technical services, so as to enrich the scientific research content of vocational colleges, highlight the scientific research characteristics and services of vocational colleges, and promote the deep integration of horizontal development between schools and enterprises, It makes the scientific research projects of vocational colleges more suitable for social needs, which not only improves the quality of scientific research results, but also improves the economic benefits and social value.

## **2.4 Strengthen the construction of scientific research team**

The management of scientific research in vocational colleges is inseparable from the construction of scientific research team. We must strengthen the management of teachers, guide and cultivate teachers to improve the spirit of scientific research and innovation. Formulate effective management system, mobilize teachers' enthusiasm for scientific research, improve the spirit of inquiry, and make a difference in their professional field. The scientific research management department of vocational colleges needs to regularly hire theoretical or practical talents from different professional fields to exchange and train in the school, so that teachers can understand the current cutting-edge theories and technologies. The school should establish a scientific research team of school enterprise cooperation, organically integrate enterprise experts, technical backbones and teachers' scientific research backbones in vocational colleges, establish a school enterprise integrated training base, realize the sharing of scientific research equipment, and promote school teachers and professionals to participate in the research of scientific research topics. The school can also employ enterprise experts as members of the school's professional Steering Committee, so that professional and technical talents can deeply participate in the whole process of the school's professional construction and talent training; Employ enterprise technical personnel as the internship and training instructors of the school, so that the scientific research team of the school can contact and master the latest social needs in the field of professional technology. The school should actively guide teachers to form a good sense of innovation and innovative thinking, and effectively collect relevant data and materials of scientific research projects and form scientific research papers in daily teaching and scientific research work; The way of introducing from outside and cultivating from inside enables school teachers to constantly broaden their horizons, cultivate critical thinking, improve their own connotation, and create a good scientific research atmosphere in the school teachers' team.

## **2.5 Establishment of scientific research supervision system**

The purpose of establishing an effective scientific research supervision mechanism is to regulate academic behavior, prevent academic misconduct and affect the reputation of vocational colleges; At the same time, it can effectively regulate the management and use of scientific research funds, reasonably control the cost budget of scientific research funds, so that each scientific research project team can earmark funds for specific purposes, and vocational colleges can formulate relevant scientific research supervision systems according to the latest scientific research policy requirements of higher authorities. In the academic supervision system, we should ensure the standardization of scientific research work from the third perspective, so that the scientific research work of vocational colleges can meet the requirements of scientific research policies and scientific research management norms. In the supervision system of scientific research funds, we should standardize the management of scientific research funds, elaborate the relevant financial system, make all departments cooperate with each other, communicate effectively, jointly promote the development of scientific research projects, ensure the rational application of scientific research funds from the perspective of supervision, formulate a perfect scientific research cost budget management scheme, and

scientifically arrange the expenditure, so as to maximize the benefits of scientific research funds. In the scientific research management of vocational schools, all kinds of scientific research achievements correspond to the relevant reward measures of the school. It is necessary to ensure that new scientific research projects are promoted in a fair and just environment, create a healthy scientific research platform for the scientific research work of the school in the way of supervision, adhere to the principles of openness and transparency in scientific research work, supervise and evaluate, and give timely feedback, Actively encourage scientific research achievements to be evaluated and recognized through market competition, scientific research and academic exchanges and other means.

### 3 Conclusion

Vocational colleges should fully recognize the importance of scientific research, build a perfect scientific research management system, adhere to seeking truth from facts, and standardize the management of scientific research. It is not only necessary to improve the scientific research level of school teachers, but also to cultivate teachers' awareness of scientific research, improve the social value of scientific research achievements, and improve the gold content of scientific research achievements. In this regard, vocational colleges should continue to optimize the management mode and establish aTo improve the scientific research ability and level of the university through effective scientific research management mechanism and scientific management.

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