Research on Teaching Management of Higher Vocational Colleges Based on Account of Computer Application Technology

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Abstract. The traditional teaching management mode of higher vocational colleges needs a large number of managers to maintain, which is not only inefficient, but also prone to greater human factors and subjective management errors, leading to the increase of teaching management cost. On account of this, this paper first analyses the role of computer utilization tech in teaching management of higher vocational colleges, and its role in the supervision of teaching quality management, optimization of teaching and curriculum, promotion of higher vocational education reform and teaching reform. Then it gives the specific strategies of the construction of computer teaching management system in higher vocational colleges.

Keywords: Teaching Management, Computer Utilization, Higher Vocational College

1. Introduction

With the iterative maturity and progress of modern intelligent tech represented by computer, it has been widely and deeply studied and popularized in many fields, especially in the teaching management process of vocational academies, which greatly promotes the improvement and optimization of teaching management level of relevant colleges [1]. With the development of computer management information system, its utilization in college teaching management system can effectively get through multiple platforms and realize the efficient sharing and communication of information. The informatization reform of teaching management in vocational academies has greatly improved the efficiency and quality of teaching management. The traditional teaching management mode needs a large number of managers to maintain, which is not only inefficient, but also tends to produce large human factors and subjective management out of date, leading to the high cost of teaching management in relevant colleges and universities.

The teaching management of vocational academies on account of computer information tech has brought great changes to the traditional management mode and mechanism [2]. On the one hand, there are many problems and loopholes in the existing teaching management mode of vocational academies, and there is a realistic demand for the intelligent management mode represented by computer; on the other hand, the teaching management system of vocational academies also provides a scientific carrier and platform for the utilization of computer tech, and promotes the iterative progress and maturity of computer management. In the process of teaching management in vocational academies, a large
amount of data and information will be produced, which needs to be reasonably used, shared and stored. However, the traditional management mode has been unable to meet the actual needs, which provides a large space for development and utilization of computer management system.

In addition, with the maturity and stability of computer tech represented by big data, cloud computing and AI, it has played a huge value in the teaching process of vocational academies. For example, the teaching platform on account of this tech effectively promotes the exchange and sharing of information, making teaching resources no longer subject to the constraints of time and space, so as to provide a more convenient and real-time service for students’ learning and teachers’ teach process. In this context, the optimization of teaching management, the smooth development of teaching activities and the steady improvement of teaching level in vocational academies are increasingly inseparable from the support of computer utilization tech.

In a word, computer information tech is gradually playing an important role in the field of teaching management. It is the responsibility of vocational academies to cultivate social practical talents. The organic integration of computer tech and teaching management in vocational academies can promote the development of colleges, improve the level of education and teaching management, and promote the sharing of information resources and the continuous optimization of teaching activities. Therefore, it is of great practical value to carry out the research on the role of computer utilization tech in the management of vocational academies.

2. The role of computer utilization tech in teaching management of vocational academies

2.1. Supervision of teaching quality management
With the deepening of the reform of vocational academies, the teaching task of the school is increasingly heavy and complex, and the utilization of computer tech in its teaching management process can effectively simplify the teaching management process [3]. Through the automatic implementation of teaching management system process, can greatly shorten the processing time of teaching related data. In addition, with the help of this tech, students can evaluate the teaching quality of teachers online, while teachers can query the evaluation results and improve the teaching management with the help of information management system. It can be seen that the utilization of this tech can effectively promote the supervision and improvement of teaching quality management.

2.2. Optimizing teaching and curriculum
With the help of computer tech to build the curriculum and teaching system of higher vocational education, it can realize the digital and process management of the whole teaching process. On the one hand, computer tech can effectively automatically generate and optimize the course selection, course arrangement and the formulation of teaching plan; on the other hand, teachers and students can realize the visual and intuitive grasp of the whole teaching process with the help of the system tech, so that students can not only choose courses independently, but also adjust courses and make learning plans with the help of the reform system [4]. In addition, teachers can use the system tech to achieve effective information management, make teaching work smoothly, simplify education and teaching work, improve and optimize teaching links.

2.3. Promoting the reform of higher vocational education
In the past higher vocational education management link, still rely on artificial teaching mode, although this teaching mode can also achieve the requirements of teaching management, but its defects and shortcomings gradually exposed in the information condition. With the deepening of the transformation and upgrading of computer tech education, computer tech has important value in promoting education reform. The teaching management on account of computer utilization tech has the typical advantages as shown in Figure 1 below. It realizes the humanized management of education, so that the society cultivates more practical and innovative talents.
2.4. Improve teaching effect

With the popularization and deepening of multimedia tech represented by computer tech, the teaching activities of higher vocational courses become more intuitive and personalized, and greatly promote the communication and interaction between students and teachers as well as between students, and promote the improvement of students' dominant position. The utilization of computer multimedia tech promotes students' learning initiative, sense of participation and experience, improves the teaching effect, and promotes the improvement of students' learning efficiency and teachers' teaching efficiency. In addition, due to the information interconnection characteristics of multimedia, the teaching process is no longer limited by time and space, and the teaching link becomes more convenient and visual.

3. Construction of computer teaching management system in vocational academies

3.1. Requirements of computer teaching management system in vocational colleges

As an important link and foundation of teaching management in vocational academies, the elective registration of teaching courses and the management of students' performance play an important role in ensuring the normal development of teaching management activities in vocational academies [5, 6]. Among them, in the aspect of students' course selection management, the system should be able to complete the course selection registration, input and generate the new semester curriculum, and have the functions of students' course selection registration, query, statistics and report generation of course selection registration information, and transmit the students' course selection registration information to the financial system. Secondly, at the level of student performance management, it has the functions of score entry, query, statistics and report generation.

In addition, the direct users of computer teaching management system in vocational academies include students, teachers and teaching administrators. According to different user levels, different management permissions should be set, as shown in Table 1 below.

| Users          | Limits of authority               |
|---------------|----------------------------------|
| Teaching administrators | Query, add, update, delete       |
| Teachers      | Query, add, update,              |
| Students      | Query                           |

3.2. Scope and boundary of teaching management

The management content of the teaching management system of vocational academies on account of computer utilization tech has system boundary. The teaching management system has no direct connection with other information management systems of the school, but it should share the necessary data from the overall database of the school, such as students, teachers, teaching plan and so on. According to the responsibilities and requirements of the computer teaching management system,
the participation of different users and the content of their activities can be determined, as shown in Table 2.

**Table 2.** Activity content of teaching management system users.

| Users             | Activity contents                                                                 |
|-------------------|-----------------------------------------------------------------------------------|
| Teaching administrators | Input, maintenance, statistics and report of courses, students' course selection, students, teachers and grades. |
| Teachers          | Query the information of courses, students' course selection and students' grades. |
| Students          | Query the information of courses and teachers, select courses, register courses, and query grades. |
| Financial system  | As an external system activity, receive students' course registration information. |

3.3. **Establishing teaching management database model**

The teaching management system of vocational academies on account of computer utilization tech uses relational database system to store and manage data. Data analysis and database design are needed when analyzing and designing the static structure model of the system. The system mainly includes personnel, courses, course registration and student performance data need to be managed. Teaching management includes the object class to realize the task of teaching management business field, which can be divided into several independent management categories, such as course selection, performance, personnel information and identity verification, as shown in Figure 2 below.

![Teaching management database model](image)

**Figure 2.** Teaching management database model.

3.4. **Dynamic behavior model of teaching management**

The dynamic behavior model of higher vocational college teaching management system on account of computer utilization tech is expressed by interaction sequence diagram and collaboration, state and activity. In the analysis and design of the system, these graphics should be drawn for the main users and object classes, so as to analyze the behavior of the system, confirm and modify the static structure of the system, meet the needs of users, and achieve the goal of the system. In addition, the core teaching management software and database of the distributed system are placed on the central computer of the school, and the utilization programs of the user interface end are respectively configured on the clients of different regions, and interconnected through the network.
4. Conclusion
In summary, the teaching management system of vocational academies on account of computer utilization tech effectively promotes the exchange and sharing of information, making the teaching resources no longer restricted by time and space, so as to provide a more convenient and real-time service for students' learning and teachers' teaching process. Through the analysis of the role of computer utilization tech in teaching management of vocational academies, this paper studies its role in the supervision of teaching quality management, the optimization of teaching and curriculum, the promotion of higher vocational education reform and the promotion of teaching reform. Through the research on the construction of computer teaching management system in vocational academies, this paper analyzes the requirements of computer teaching management system, the scope and boundary of teaching management, and the construction of teaching management data model.

References
[1] Jin Haifeng. Research on curriculum system reform of computer network tech specialty in Vocational academies under the background of cloud computing [J]. Internet of things tech, 2018,8 (4): 114-115.
[2] Peng Kai. Utilization of JSP tech in the development of computer network tech professional resource library platform [J]. Computer and network, 2018,44 (02): 40 - 41.
[3] Sheng Xiaoying. Problems and Countermeasures of the secondary teaching management system of applied local universities [J]. Journal of Lishui University, 2018,40 (01): 123 - 128.
[4] Yang Haoli. Problems and Countermeasures in university teaching management: a case study of N college [J]. Modern communication, 2018,42 (4): 183-184.
[5] Yao Jinao. Management and Utilization Strategies of university teaching management account - Taking Xiamen Institute of tech as an example [J]. Education and teaching forum, 2018,16 (04): 29-31.
[6] Zhou Shiyin. Information security professionals of computer network tech for intelligent manufacturing [J]. Information system engineering, 2018 (4): 167-169.