

# Research on the Reform of All-Round Development Education Mode in Higher Vocational Colleges Based on Big Data Analysis

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**Keywords:** Big data analysis, Higher vocational colleges, Educational model reform

**Abstract:** Big data technology has become an important measure to achieve innovation and development in all sectors of society. The concept of big data has quickly penetrated into the field of education. Students, as direct participants, feel the truest about the quality of teachers' teaching. Big data technology can analyze the needs of students in the current era from many aspects. Big data will help students to learn better, teachers to teach better and the government to manage better. It will upgrade the education system of schools, local regions and even countries to intelligent education, that is, provide a series of differentiated and personalized educational resources support for students, teachers and parents. In order to respect the diversity and diversity of students, higher vocational colleges based on big data analysis should not only follow the students' learning trajectory, but also design their favorite learning methods, so as to effectively promote the further improvement of educational management level and maximize the positive role of all-round development of educational mode reform, scientific research and management.

## 1. Introduction

In the current era, scientific and technological construction has become the mainstream of the times, and all walks of life are actively carrying out scientific and technological construction. China's higher vocational colleges are also actively applying science and technology, hoping to help them complete better construction, among which big data technology is the most important one. Big data technology has become an important measure to achieve innovation and development in all sectors of society. The concept of big data has quickly penetrated into the field of education. Students, as direct participants, feel the truest about the quality of teachers' teaching[1]. Big data will help students to learn better, teachers to teach better and the government to manage better. It will upgrade the education system of schools, local regions and even countries to intelligent education, that is, provide a series of differentiated and personalized educational resources support for students, teachers and parents[2]. Therefore, higher vocational colleges have applied "student evaluation of teaching" as an important means to evaluate teachers' teaching quality to the management of teachers' teaching quality, which helps to better grasp students' individual learning behavior.

Big data technology can analyze the needs of students in the current era from many aspects, the learning analysis technology, which focuses on "measuring, collecting, analyzing and reporting data related to students and their learning environment, so as to understand and improve learning and its generating environment"[3]. However, in the specific operation process, schools often use the results of students' evaluation of teaching to evaluate teachers' teaching quality, while using the evaluation data to help teachers with teaching research and teaching reform is not strong enough[4]. These situations cause students to evaluate teaching at will, and teachers sometimes question the evaluation of teaching. Therefore, it is intuitive and important for the development of higher vocational colleges to provide a specific reference standard for the reform of planting colleges. When a teaching system knows where learners are going, it can better deliver them there. In order to respect the diversity and difference of students, we should follow the students' learning trajectory and design their favorite learning methods positive role of realizing the all-round development of

educational model reform, scientific research and management.

## 2. Analysis on the Current Situation of Educational Management in Higher Vocational Colleges

### 2.1 Non Cooperation of Students in Education Management of Higher Vocational Colleges

The first step for higher vocational colleges to carry out education management reform is to achieve an all-round update of the teaching management concept, break through the traditional teaching management thinking, and attach importance to the “Internet plus” thinking as the guiding thinking of teaching management. Relevant teachers and schools should improve the infrastructure and teaching facilities, especially the introduction of hardware and software equipment related to big data, and increase efforts to improve the experimental center facilities of the school, so as to promote the smooth implementation of the subsequent improvement of teaching system facilities, multimedia computers, distance teaching, digital teaching resources, etc. have begun to enter the education field, and the learning carrier is no longer limited to paper textbooks. With the emergence of massive information, the change of learners' reading paradigm, the emergence of new media, before students check the course scores online. If students want to view the results of a course, they must first evaluate the course. Such a setting method is inevitably “forced”[5]. We should fully understand the situation of higher vocational students, sort out the professional curriculum structure, reasonably arrange class hours and teaching content, and improve teaching methods and forms. It can be seen from Table 1 that the main enrollment channels of higher vocational proportion of students recruited independently is increasing year by year, and the proportion of independent enrollment in some colleges exceeds 70%. The last is the students who are promoted by secondary vocational schools. The students have strong career goals and are highly plastic through their professional learning and practice. This kind of students have the worst basic theory, which leads to very difficult theoretical learning in the vocational stage.

Table 1 Composition and Comparison of Students in Higher Vocational Colleges

Recruitment channels	Proportion	Basics	Target	Enthusiasm
Unified recruitment for college entrance examination	51%	Preferably	Poor	High
Independent enrollment	42%	Commonly	To make clear	Commonly
Promotion of excellence in secondary vocational education	7%	Poor	Commonly	Commonly

Since the existing learning environment cannot achieve the high-level cognitive goal of “analysis, evaluation and creation” of learners, it is necessary to consider restructuring the learning environment to carry out education management theme training for education management workers and teachers to enhance their understanding and understanding of the cutting-edge theories of education management and help them master the new requirements majors, more attention should be paid to such knowledge as statistical analysis and data processing, and efforts should be made to seek knowledge integration among related courses[6].

### 2.2 The Level of Teachers in the Education Management of Higher Vocational Colleges is Not High

With the extensive deepening and application of education informatization, the assurance of classroom teaching quality and students' learning situation no longer depends on teachers' subjective experience, but can be reflected more objectively and accurately through teaching data. The computer specialty is a comprehensive course combining hardware and software, and the specialty involves a wide range of courses, such as electronic technology, discrete mathematics, information processing, algorithms, artificial intelligence, etc. All of which require students to master the key content of the discipline, and should be flexible and effectively integrated with the content of the professional curriculum. Moreover, due to the differences of teaching levels in different schools in different areas in middle schools, students' mastery of application ability in classes are uneven. Restricted by external factors such as time and space and teachers' outdated

teaching ideas, in this way, not only do students receive limited knowledge, but they are often in a passive position in the process of receiving knowledge. The main teaching content is technical teaching, so many teachers in the school are all senior workers, which leads to these teachers not being able to better understand the importance[7-8]. Based on this, if the current computer professional teachers still doomed to not be significantly improved, and it is even more difficult to meet the high demand for data talents in the era of big data. See Figure 1 for the current teaching situation of educational management in higher vocational colleges.

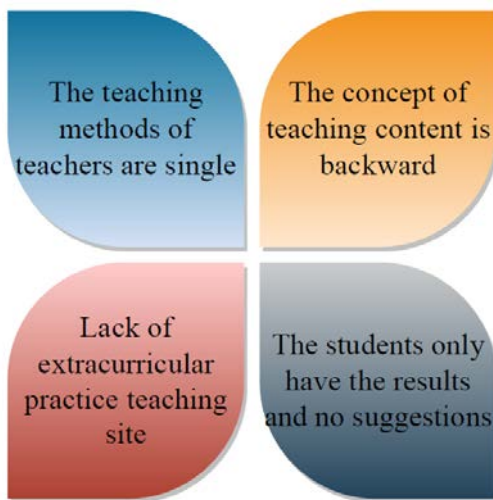


Fig.1 Analysis of Teaching Status of Education Management in Higher Vocational Colleges

In this way, under the premise of unified teaching, students' learning effects will be different. Over time, students are likely to be bored with professional learning. Under the traditional teaching management mode, for students with different levels of learning ability and learning level, higher vocational colleges did not design teaching objectives and teaching plans hierarchically, but adopted a “one size fits all” approach, adopting the same teaching measures for all students, neither fully considering the actual characteristics of students, nor effectively realizing the optimal allocation of teaching resources[9]. It will upgrade the education system of schools, local regions and even countries to intelligent education, that is, provide a series of differentiated and personalized educational resources support for students, teachers and parents. Therefore, higher vocational colleges have applied “student evaluation of teaching” as an important means to evaluate teachers' teaching quality to the management of teachers' teaching quality, which helps to better grasp students' individual learning behavior.

### 3. Feasible Strategies for Educational Management Reform in Higher Vocational Colleges in the Age of Big Data

#### 3.1 “Internet” Thinking is Embedded in the Whole Process of Education Management

With the advent of the big data era, the training goal of computer specialty in higher vocational schools is gradually changing to practical talents with strong practical skills. The first step for higher vocational colleges to carry out education management reform is to achieve an all-round update of the teaching management concept, break through the traditional teaching management thinking, and attach importance to the “Internet plus” thinking as the guiding thinking of teaching management[10]. Relevant teachers and schools should improve the infrastructure and teaching facilities, especially the introduction of hardware and software equipment related to big data, and increase efforts to improve the experimental center facilities of the school. After the relevant content is obtained through big data, it cannot be directly promoted comprehensively, or it will bring unpredictable risks. Based on this situation, compatibility between big data technology and teaching management, and carry out informatization and digital processing of various teaching management files, so as to achieve efficient analysis and processing of them with the help of big

data technology.

### 3.2 Comprehensively Improve the Informatization Level of Education Administrators

Big data is a very good measure. The main reason is that in the training of teachers' education management level, the traditional method is to carry out theoretical education, which makes it difficult for teachers to directly apply it to specific education and teaching. Carry out education management theme training for education management workers and teachers to enhance their understanding and understanding of the cutting-edge theories of education management and help them master the new requirements. With the extensive deepening and application of education informatization, the assurance of classroom teaching quality and students' learning situation no longer depends on teachers' subjective experience, but can be reflected more objectively and accurately through teaching data. The computer specialty is a comprehensive course combining hardware and software, and the specialty involves a wide range of courses, such as electronic technology, discrete mathematics, information processing, algorithms, artificial intelligence, etc. All of which require students to master the key content of the discipline, and should be flexible and effectively integrated with the content of the professional curriculum.

### 3.3 Enhance the Educational Management Ability of Big Data Service Schools.

Under the background of big data era, improving the level and ability of the transformation and application of information network technology in teaching management educational with a real practical environment. Find all kinds of the most advanced educational management methods in the world, and they can choose and improve according to their own actual situation, so that they can get specific methods suitable for their own schools. At the same time, it is also a key measure for the school to achieve the goal of cultivating talents with good professional skills and advanced ideas. Therefore, higher vocational colleges need to focus on the following aspects, as shown in Figure 2.

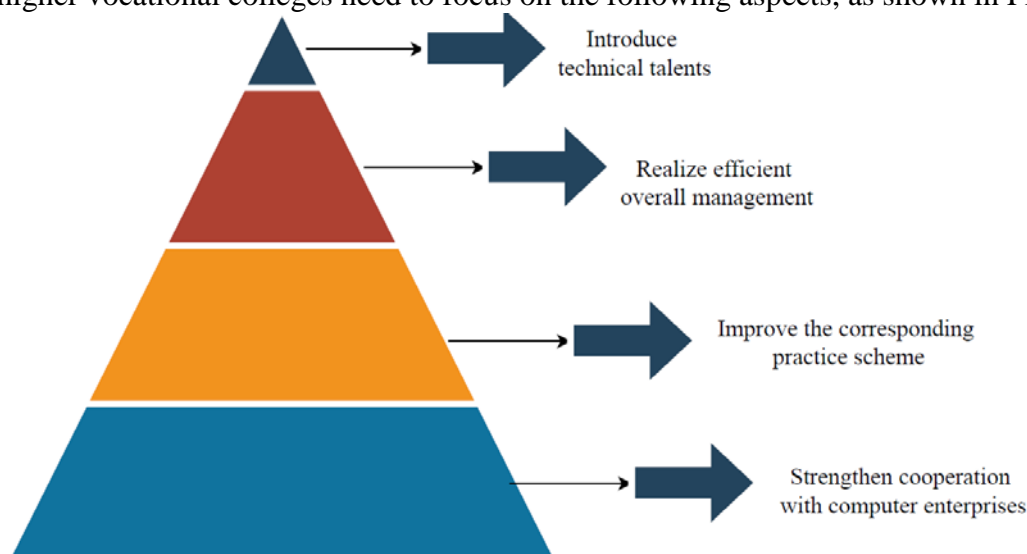


Fig.2 The Links of Realizing Educational Management Reform in Higher Vocational Colleges

Higher vocational colleges and cooperative enterprises should work together to develop and design special education management software according to their own actual education management needs, and use this software to complete the digitization and data processing of school education. Therefore, when carrying out the reform, it must be carefully implemented to ensure that teachers and students can fully accept the specific contents of the reform of education management.

## 4. Conclusions

Big data is a very good measure. The main reason is that in the training of teachers' education management level, the traditional method is to carry out theoretical education, which makes it difficult for teachers to directly apply it to specific education and teaching. By embedding the

development idea of “Internet plus”, the team, hardware and software construction of education management can be realized, diagnoses and serves the whole learning process, aiming to improve the learning performance of each different learner, and achieve high-quality vocational education and personalized development of students. These situations cause students to evaluate teaching at will, and teachers sometimes question the evaluation of teaching. Therefore, it is intuitive and important for the development of higher vocational colleges to provide a specific reference standard for the reform of planting colleges. When a teaching system knows where learners are going, it can better deliver them there. In order to respect the diversity and difference of students, we should follow the students' learning trajectory and design their favorite learning methods positive role of realizing the all-round development of educational model reform, scientific research and management.

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