A study of personalized training strategies for vocational education based on big data systems

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Abstract: The investigation and analysis of personalized training of vocational education based on big data system has the characteristics of simplicity, operation and persuasiveness. This article comprehensively elaborates on the characteristics and meaning of personalized education, combines the big data analysis method and selects five colleges and universities in Guangzhou to conduct a questionnaire survey, to find out the problems in the personalized training of vocational education, and to propose measures.

1. Introduction
Vocational education is based on a comprehensive analysis of the activities of occupational roles, with the basic principle of providing the competences that society needs for the performance of the duties of the job, emphasizing the dominant role of the trainee in the learning process, the core of which is how to equip the trainee with the practical competences necessary for a particular occupation. Individualized and differentiated training in vocational education is a path that must be taken to adapt to the actual teaching and social needs of our country. However, in the reality of vocational education, the traditional education model is a single, mass production to create a large number of talents, but ignore the main role of the student and personality development needs, it is difficult to achieve educational goals. In this article, based on this background and the big data survey, we analyze the current problems in China's vocational education, and on the basis of a full analysis of the value and significance of personalized teaching and training in vocational education, we propose a number of targeted measures.

2. Overview of personalized education
Individualized education refers to the teaching activities of teachers who use individualized teaching as a means to develop educational goals and training methods according to the characteristics of the object of education, to meet the individualized learning of students, so as to effectively integrate educational resources, deepen the potential of the object of education, promote the healthy development of individual personality to achieve the desired educational effect. In the teaching process, teachers should respect the individuality of each individual on an equal basis and respect the needs of each individual so that all students have the right to individualized learning. In vocational education. By building bridges of individualized talent cultivation through a variety of education and teaching channels, the quality of education and teaching can be comprehensively improved, providing students with a broad space for career development in the future.

The characteristics of personalized teaching compared to traditional teaching are mainly manifested in the following aspects.
First, there is a strong democratic nature. Personalized teaching is the real democratic teaching, in
the whole process of personalized teaching, democracy is its premise and guarantee, personalized teaching in essence is to take the individual differences of the educated as the starting point, analyze their strengths, advantages and characteristics, develop the differences as resources, according to the differences in the quality of students, find their flash points, teach according to the material, pay attention to the shaping of the psychological structure of students, explore their learning potential, cultivate their self-confidence and pride, so that the development of each student has its uniqueness. Personalized teaching emphasizes the democratic equality of the teacher-student relationship, the teacher-student relationship is a democratic teacher-student relationship of "mutual respect and love", the teacher is no longer supreme, but rather a good teacher and friend of the students, thus shortening the gap in the thinking of teachers and students, mutual trust and mutual understanding between teachers and students, so that students can develop fully, harmoniously and freely, and at the same time strengthen their learning confidence, so that they will learn and learn. The second is subjective. Personalized teaching attaches importance to the dual subject of teacher and student, manifested in the teaching process is the teacher and student's independent, creative activities, give full play to the leading role of the teacher and the student's subject role, mobilize the student's initiative, consciousness, enthusiasm, independence, creativity, so that the student's personality can be fully displayed, so that students learn to learn, and develop the existing subjectivity to a new level.

Third, be creative. Individuality and creativity are intimately connected and inextricably linked. Traditional teaching is too rigid in teaching management and evaluation standards, too strict and too uniform in requirements, which to a large extent inhibits the cultivation of students' sense of innovation and innovative ability. And personalized instruction requires teachers to teach creatively and students to learn creatively. Creative learning means both that learning itself requires constant innovation and that the purpose of learning is to constantly innovate, which is the fundamental goal of personalized learning. It requires teachers to understand the learning situation of students in the teaching process, remove the psychological barriers that prevent students from creative learning, guide students to think independently, express their own opinions, dare to innovate and better develop creative talents. Fourth, it reflects a certain harmony. Individualized teaching emphasizes the harmonious development of the individuality of both teachers and students, and the harmonious development of individuality and social needs. The principle of discovery and motivation of personalized teaching recognizes differences, discovers and utilizes students' strengths, characteristics, hobbies and weaknesses, promotes students' progress, development and success, and enables students

Figure 1: Characteristics of personalized education

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to discover themselves, thus realizing the harmonious development of their personalities. By motivating students, students are motivated to discover themselves and develop themselves. The starting point of motivation is to combine the specific cultivation goals of the school with the actual development level of the students, and through the specific tasks and requirements put forward to the students, to achieve the synchronization of the development of the students' personality with the needs of social development and the cultivation goals of the school, to help the students discover their own flash points and existential value, have a sense of self-fulfillment, and constantly strive for a higher, more beautiful and more ambitious direction. Through encouragement, praise, etc., to cultivate students' personalities, while giving full play to their individual potentials, so that they gradually form a good learning mentality and a correct outlook on life and values.

3. Meaning and value of personalized training in vocational education

The individualized education model can be expressed as, on the basis of discovering and respecting the existing personality of the educated person, as well as favorable material conditions, to maximize the promotion of the educated person's physical ability, intelligence, mobility, moral quality, emotional will and other qualities of independent, harmonious and dynamic development, and eventually form a good personality of education. The individualized teaching mode of vocational education is a teaching mode that starts from the competencies necessary for engaging in a specific occupation and at the same time determines the training objectives, designs the teaching content, methods and processes, and evaluates the effectiveness of teaching based on the individual characteristics of the students.

The value of implementing personalized training in vocational education is reflected in the following areas.

3.1 It is essential to the achievement of the objectives of vocational education. The employment-oriented approach reflects the main requirements of our society for higher vocational education at this stage. The purpose of vocational education is threefold: first, to develop the personality; second, to prepare the individual for life; third, to prepare the individual for service to society; and fourth, to prepare the nation and the world for increased productivity. The importance of developing the student's personality is well illustrated by placing individual development at the forefront of vocational education goals. The implementation of personalized teaching is not only an effective means of developing students' personalities, but also conducive to their recognition and learning of their future roles, the transformation of their roles, the realization of educational goals, and the better grasp of the skills needed for future jobs and the enhancement of their competitiveness for employment.

3.2 The implementation of personalized teaching reflects the characteristics of vocational education. Vocational and technical education is characterized by the development of non-disciplinary, applied talents, who are not generalists but specialists. In other words, people with specialized skills in production, construction, management and service on the front line. For example, it is not realistic to acquire skills for all the jobs involved in a profession such as mechanical design, manufacturing and automation, which has a very large number of jobs, but there is a social demand for all the jobs involved in the profession. In order to meet the individual needs of students and the needs of society, we advocate that under the guidance of teachers, we develop student learning plans according to the individual characteristics of students, determine the learning direction suitable for individual students, choose the corresponding learning content, and each student focuses on learning the skills of one to two positions. This will not only save time, but also improve the level of skills and achieve the teaching objectives of higher vocational education and meet the needs of society.

3. 3 Embodies the new concept of "people at the centre". "Putting people first" is an important governing philosophy put forward by the Central Authorities in accordance with the requirements of the new situation and tasks of the new century, a long-term guideline for our economic and social
development, and an important principle that must be implemented in practical work. To put people first is to promote comprehensive human development and realize the fundamental interests of the people in the light of their needs. With a people-centred perspective, the purpose of our thinking and action is clear, the direction is clear, and the content is clear, according to the requirements of people-centredness. For schools, student-centredness is a concrete expression of "people-centredness". China's current teaching model is the teacher as the main teaching mode, while personalized teaching requires people-oriented, from the teacher as the main teaching mode to the student as the main teaching mode, more conducive to the development of the student's personality.

3.4 The implementation of personalised teaching is a need of the students themselves. The development of a student's personality is determined by his or her needs in a given time and space. We believe that a teaching model that meets the requirements of the educational objectives and meets the needs of students well is a reasonable teaching model. In fact, the implementation of personalized teaching not only enhances the students' skill level, but also, more importantly, satisfies the students' personality development requirements as much as possible and enhances their ability to explore the meaning of life.

In summary, the implementation of personalized teaching embodies the idea of "people-oriented" education, and personalized teaching is also necessary to achieve the goal of vocational education, while the personalized teaching model can better meet the needs of students themselves. The ultimate goal of personalized education is to cultivate personalized people, and personalized education is the process of realizing personalized education to cultivate personalized people. The personalized teaching model has built a good platform for this purpose, and we have reasons to believe that the personalized teaching model, like other advanced teaching models, will be valued by more vocational education workers.

4. Survey on personalized training in vocational education based on big data

We conducted questionnaire design and questionnaire survey with students from several vocational colleges in the Guangzhou area. The selected students, representing different levels and majors, were analyzed in the form of a data-based analysis of the vocational education of university students in vocational institutions and several conclusions were drawn.
4.1 Questionnaire design

The questionnaire survey was conducted by five vocational colleges and universities, namely Guangdong Vocational and Technical College, Guangzhou Institute of Sports and Vocational Technology, Guangzhou Commercial and Technical College, Guangzhou Railway Vocational and Technical College and Guangdong Second Industrial Vocational and Technical College. The target population included students and teachers, and the data were selected for a total of 500 targets, representative in terms of gender and educational level of the target population. These five schools were chosen because of the differences in the educational direction and teaching objectives of these colleges, and because they are both universities in Guangdong Province and Guangzhou City, and the findings of the questionnaire are convincing.

There are five main questions in the questionnaire, namely.

Table 1. Several questions on the questionnaire

| Question                                                                 | Item (score)       |
|-------------------------------------------------------------------------|--------------------|
| 1. Do you think that the individualized education you need for vocational education meets educational expectations? | conform 20%        |
|                                                                         | non-conformity 80% |
| 2. What do you think is the significance of personalized vocational education? | larger 38%         |
|                                                                         | meaningless 62%    |
| 3. What other aspects of personalized education do you think could be better implemented? | No need. 10%       |
|                                                                         | need 90%           |
| 4. If you were asked to score, how much do you think you would rate the individualized teaching in your school? | Over 80 points. 21% |
|                                                                         | Below 80 points. 79% |
| 5. What are your dissatisfactions with the personalized teaching?        | No need. 5%        |
|                                                                         | need 95%           |

The questionnaire included four categories of teachers, senior students, junior students and administrators, with a ratio of 2:3:3:1, i.e. over 60% of students, and a relatively low ratio of teachers and administrators, which is both democratic and quite persuasive.

4.2 Analysis of findings

In our survey of higher education students, we found that employment is still one of the important reasons why students choose to attend higher education institutions. The above-mentioned chart has in fact analysed the findings of the survey, and the more visual conclusions are.
One is that both students and teachers are not satisfied with the personalized education in their schools, and that there is still room for improvement or enhancement. Secondly, it is generally accepted that personalized education is more relevant to one's career development and planning, but there is still a vague understanding of how to improve it. Third, under the regular teaching model, students' planning for their future careers is more restricted and the purpose of student learning is not clear. Fourth, because the personalized teaching model embodies the characteristics of "people-oriented" education, the students themselves choose the direction of the professional studies, greatly improving the students' motivation to study.

5. Research on personalized training strategies for vocational education based on big data systems

5.1 Highlight the individualized model of talent training. With the gradual deepening of professional construction and curriculum reform in recent years, vocational schools have shown individualized talent training, but the results are still not obvious. To highlight the personalization of talent training, the first should implement a diversified model of talent training, focus on personalized training reform, optimize the professional curriculum system and teaching content, to create their own first brand professional. To expand the professional direction, consider the needs of some students for further studies, set up practical skills courses for students to take according to their interests, encourage students to take courses according to the needs of society and their own interests and hobbies, interdisciplinary courses flexible combination of their own knowledge structure, so as to provide students with broad space for future development.

5.2 Implementation of individualized teaching methods. The problems of emphasizing the exploration of teaching methods, neglecting the research of learning methods, attaching importance to the role of teachers and ignoring the interests of students are still very serious in China's vocational education, which is far from the needs of personalized education and innovative talent training, and is not conducive to the growth of talents. We should focus on creating scenarios, starting from interest, improving the artistry of teaching, creating teaching methods conducive to the development of discussion, interactive debate and scenario role-playing, creating interactive and discussion sessions based on professional skills, so that students can take the initiative to express their personal opinions and stimulate students' interest in learning.

5.3 Fostering the innovative spirit and capacity of students. In traditional vocational schools, teachers have developed objects, content, methods and techniques to instill in their students. This is not conducive to creative completion of learning. It is necessary to provide students with a personalized development platform, actively play the function of club activities, cultivate a sense of mutual cooperation and responsibility, develop learning communication and leadership skills, and encourage students to discover themselves. It is necessary to establish an in-school entrepreneurship park and, through guidance and standardized management, establish an in-school student entrepreneurship park to expand students' entrepreneurial ability and awareness of business services. In order to help students with special personalities, the school has implemented a parental system for students with special personalities, organizing experienced teachers to accompany the students, providing them with care in life, psychological guidance and study guidance.

5.4 The function of systematic nurturing of human beings is to be fulfilled. It is necessary to nurture people through characteristic culture, inculcate and motivate students' personalities, enhance students' professional qualities and promote the formation of good moral qualities through civilized etiquette education. It is important to develop not only the professional skills of the student, but also the excellent personality qualities of the student.
6. Conclusion
The teaching model refers to an actionable and controllable structural process designed around certain teaching objectives according to certain educational theories, teaching principles and teaching experiences. Vocational education has its own characteristics; it sets its training objectives from the point of view of the competencies necessary for a specific occupation, and it embodies the idea of vocational education on the basis of vocational competencies. The individualized training of talents is an important means to realize the individualized and comprehensive development of students. There is no doubt that the implementation of personalized training in vocational education has great value, but according to the survey above, there are still many problems with personalized training in China's vocational education, which requires a set of advanced concepts, a set of scientific methods, a series of systematic research to promote, and is also an important topic for us to promote education reform in the future.

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