

Research on comprehensive evaluation system of smart chemical industry

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Abstract: in the current trend of education reform and development, comprehensive evaluation has become one of the important indicators of students' academic development. The emergence of comprehensive academic evaluation system provides an effective evaluation method for schools, teachers, parents and students, and helps to improve the quality of school teaching. This paper will discuss the importance of comprehensive academic evaluation, intelligent evaluation methods and the implementation and optimization of the evaluation system, and put forward suggestions and discussions, in order to have a certain reference value for the in-depth study of the comprehensive academic evaluation system.

Key words: intelligence; Comprehensive academic evaluation; System; Evaluation; student

Introduction

With the development of society and economic progress, education has become one of the most important infrastructure in modern society. Education is not only a necessary condition for personal development, but also an important support for national development. Therefore, how to improve the quality of education and improve students' academic performance and comprehensive quality has become the common task of educators and government departments. In the traditional education mode, students' academic performance is often the only evaluation standard. However, this model ignores the comprehensive quality of students, which tends to lead to unbalanced development of students and even excessive learning pressure. Therefore, the emergence of comprehensive academic evaluation system has become an inevitable trend. Comprehensive academic evaluation can not only evaluate students' academic level more comprehensively, but also provide more scientific evaluation criteria for students' development.

1. Definition of intelligent chemical industry comprehensive evaluation system

The intelligent chemical industry comprehensive evaluation system is a system that uses advanced information technology to evaluate students' academic level and comprehensive quality objectively, scientifically and comprehensively. The intelligent chemical industry comprehensive evaluation system can not only evaluate students' academic performance, but also evaluate students' thinking ability, language expression ability, innovation consciousness, team cooperation ability and other comprehensive qualities.

2. Design and implementation of intelligent academic comprehensive evaluation system

1. system architecture design

The intelligent comprehensive academic evaluation system is mainly composed of data collection, data processing, data analysis, learning guidance and other modules.

The data acquisition module is mainly responsible for collecting students' learning data, including students' learning time, learning content, learning progress, etc. Data collection can be carried out through students' e-learning files, students' learning records, etc.

The data processing module is mainly responsible for processing and cleaning the collected data, removing invalid data and abnormal data, making the data more accurate and reliable.

The data analysis module mainly uses big data analysis technology to analyze and mine the processed data, extract students' learning characteristics, learning habits, learning difficulties and other information, and provide personalized learning guidance for students and scientific evaluation basis for teachers.

The learning guidance module mainly provides students with personalized learning guidance and suggestions according to their learning situation and learning characteristics, including learning plans, learning methods, learning resources, etc.

2. key technologies of system implementation

The implementation of intelligent academic comprehensive evaluation system involves a variety of technologies, including artificial intelligence technology and big data analysis technology.

Artificial intelligence technology mainly includes machine learning, natural language processing, image recognition and other technologies. Machine learning technology can use historical data to predict and analyze students' learning situation, and provide personalized learning guidance for students; Natural language processing technology can carry out semantic analysis and emotional analysis on students' learning records, understand students' learning status and emotions, and provide students with more practical learning guidance; Image recognition technology can monitor and analyze students' learning behavior, understand students' learning habits and interests, and provide students with more personalized learning resources. Big data analysis technology mainly includes data mining, machine learning, deep learning and other technologies. Data mining technology can mine and analyze students' learning data, and extract students' learning characteristics and habits; Machine learning technology can predict and classify students' learning data, and provide personalized learning guidance for students; Deep learning technology can conduct in-depth analysis and modeling of students' learning data, and provide more accurate learning guidance for students.

3. Advantages of intelligent chemical industry comprehensive evaluation system

The intelligent chemical industry comprehensive evaluation system has the following advantages over the traditional academic comprehensive evaluation system:

1. comprehensive evaluation of students' academic performance and comprehensive quality: the intelligent chemical industry comprehensive evaluation system can more comprehensively evaluate students' academic performance and comprehensive quality, and provide more scientific and accurate evaluation standards for students' development.
2. objectively evaluate students' academic level and comprehensive quality: the intelligent chemical industry comprehensive evaluation system uses advanced algorithms to objectively, scientifically and comprehensively evaluate students' academic level and comprehensive quality, avoiding the influence of human factors on the evaluation results.
3. improve the quality of education and teaching: the intelligent chemical industry comprehensive evaluation system can provide the basis and direction for the improvement of education and teaching, and improve the quality of education and teaching.
4. promote the development of students: the comprehensive evaluation system of smart chemistry industry can provide more scientific and accurate evaluation standards for the development of students, and stimulate students' learning interest and motivation.

4. The importance of intelligent chemical industry comprehensive evaluation system

Academic comprehensive evaluation is a way to evaluate students' comprehensive quality. The traditional evaluation method based solely on achievement can no longer meet the needs of the development of modern education. In addition to mastering cultural knowledge and related skills, students also need to have comprehensive qualities such as critical thinking and innovative consciousness, which can not be simply reflected by numerical results. Therefore, the comprehensive academic evaluation plays an important role in students' academic development.

First of all, comprehensive academic evaluation is conducive to promoting educational equity. The traditional performance evaluation method will put some students who are not good at some subjects at a disadvantage, but the comprehensive evaluation can understand the students' learning and development from multiple angles and roundly, and provide a more fair evaluation standard.

Secondly, the comprehensive academic evaluation is conducive to the cultivation of students' comprehensive quality. The comprehensive academic evaluation can combine the students' comprehensive quality with their achievements, investigate and reflect the students' Ideological and moral character, innovation ability, practical ability, foreign language ability, artistic quality and other multi-level comprehensive quality from different aspects, and promote the comprehensive development of students' comprehensive quality.

Finally, the comprehensive academic evaluation is conducive to improving the quality of teaching. The comprehensive academic evaluation system can track, analyze and evaluate students' learning situation, help educators understand the effect and problems of education and teaching, and let educators better optimize and improve the quality of teaching.

5. Evaluation method of intelligent chemical industry comprehensive evaluation system

In order to better promote the modernization of teaching and education, the comprehensive academic evaluation system needs to adopt intelligent evaluation methods. The intelligent evaluation method refers to the use of modern Internet of things and big data technology to gather and synthesize various educational resources, so as to realize the comprehensive and multi-level evaluation of students' academic development.

The intelligent evaluation method has the following advantages:

1. More inclusive. Weakening a single test score, making full use of educational resources, and providing more extensive and comprehensive educational tools and resources free of charge are important ways to break through regional barriers and social class restrictions, and important means to achieve educational equity.
2. Higher degree of data. The intelligent evaluation method is adopted to comprehensively consider the multi factor data of students' personalized differences, regional differences, family background, interdisciplinary use and other factors, establish a quantitative multi-dimensional evaluation index system, more intuitively show the students' academic development, and provide more accurate and complete data support for education management.
3. More humanized. The intelligent evaluation method will gather the data information of students' learning methods, hobbies, life experiences and other aspects, put forward visual education solutions, more humanized analysis of different development characteristics of students of different ages, and better realize the individualization of education.

6. Implementation and optimization of intelligent chemical industry comprehensive evaluation system

The realization and optimization of the comprehensive academic evaluation system needs a lot of educational resources, Internet of things technology and talent reserve. The realization and optimization of the comprehensive academic evaluation system need to be continuously improved in the following four aspects.

1. Data collection and analysis. The realization and optimization of the comprehensive academic evaluation system need to establish a data collection and analysis mechanism to collect and analyze students' academic development in an all-round and multi-level way, and integrate the data into the student evaluation system, so as to evaluate students' comprehensive quality more comprehensively, objectively and impartially.
2. Scientific evaluation system. The optimization of the comprehensive academic evaluation system needs to establish a scientific evaluation system. According to the specific situation of students' good and bad performance, scientific, accurate and practical evaluation

standards should be formulated to scientifically evaluate students' comprehensive quality.

3. Curriculum system construction. The implementation and optimization of the comprehensive academic evaluation system need to constantly strengthen the curriculum reform and the updating of teaching methods, adapt to the needs of students' information learning, and build an effective smart education curriculum system to improve students' academic ability and quality.

4. Education management and services. The implementation and optimization of the comprehensive academic evaluation system need to strengthen education management and services, integrate educational resources, Internet of things technology and other information, build a perfect education management service system, and provide more accurate, timely and comprehensive services and guidance for students.

7. Development trend of intelligent chemical industry comprehensive evaluation system

The development trend of intelligent chemical industry comprehensive evaluation system mainly includes the following aspects:

1. continuous upgrading of Technology: with the continuous upgrading of technology, the data collection, data processing and evaluation report generation of the intelligent chemical industry comprehensive evaluation system will be more perfect and accurate.

2. realization of personalized evaluation: the comprehensive evaluation system of smart chemistry industry will gradually realize the personalized evaluation of students, and provide more accurate guidance and help for the development of students.

3. application of diversified evaluation standards: the comprehensive evaluation system for the smart chemical industry will gradually adopt diversified evaluation standards, including discipline ability, innovation ability, language expression ability, team cooperation ability and other aspects.

4. integration with other education systems: the intelligent chemical industry comprehensive evaluation system will gradually integrate with other education systems, including student file management system, teaching management system, etc.

8. Application prospect of intelligent academic comprehensive evaluation system

The application prospect of intelligent academic comprehensive evaluation system is very broad. With the development of information technology and the reform of education and teaching, intelligent academic comprehensive evaluation system will become an important part of education and teaching in the future. It will provide a more scientific and comprehensive evaluation method for students' learning, and provide strong support for the improvement of education and teaching quality.

9. Solution of key problems

In the process of implementing the comprehensive academic evaluation system, the following key problems need to be solved:

1. How to ensure the privacy and security of personal information?

With the development of the comprehensive academic evaluation system, privacy and security issues have also attracted increasing attention. Therefore, when designing and implementing the comprehensive academic evaluation system, we must pay attention to the privacy and security of personal information, and take corresponding technical measures and management system to ensure that personal information is not leaked and abused.

2. How to solve the anxiety and resistance of students and parents?

In education management, the opinions of students and parents are often an aspect that can not be ignored. In the practice of the comprehensive academic evaluation system, the opinions of students and parents can not be ignored. We should consider the cost, benefit and other aspects to make the evaluation results accurate and reassure students and parents.

3. How to solve the quality problem of evaluation standard?

The evaluation standard is the core of the evaluation, and the quality of the evaluation standard will directly affect the accuracy and credibility of the evaluation. Therefore, in the process of designing and implementing the comprehensive academic evaluation system, it is necessary to listen to the opinions and suggestions of all aspects, formulate scientific, credible and feasible evaluation standards, and continuously optimize and improve them, so as to improve the accuracy and objectivity of the evaluation.

Conclusions and suggestions

With the development of Internet technology, the intelligence of academic comprehensive evaluation system will gradually be combined with the modernization of education and teaching, which is conducive to promoting the improvement of students' comprehensive quality, promoting education equity and improving teaching quality. In the process of realizing and optimizing the comprehensive academic evaluation system, we need to unite the strength of educators and parents, cultivate students' comprehensive quality, and establish a scientific, rigorous and accurate evaluation mechanism. In this process, we need to pay attention to protecting the privacy and security of personal information, strengthen education management and service, and finally realize the innovation and development of education and teaching.

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Project No.: 20jk0780

Project Name: Research on comprehensive evaluation system of smart chemical industry