

# AIGC ENABLES THE CONSTRUCTION OF ACADEMIC EVALUATION SYSTEM FOR UNDERGRADUATE COLLEGE STUDENTS

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**Abstract:** A series of policies of the Ministry of Education of China guide universities to change the traditional evaluation orientation and optimize the academic evaluation system. At the same time, the wide application of artificial intelligence generated content (AIGC) technology has brought new opportunities and challenges to the academic evaluation of colleges and universities. This paper focuses on the application of AIGC technology in the academic evaluation system of undergraduate universities, and puts forward four key application scenarios: automatic data collection and processing, comprehensive learning situation analysis, diversified evaluation model construction and personalized learning support. Based on this, this paper discusses the direction of academic evaluation reform under the power of AIGC from three dimensions of students, teachers and schools, and analyzes how to stimulate students' learning motivation, improve teaching accuracy and optimize resource allocation. Finally, the paper points out that the application of AIGC in the field of education not only provides an innovative path, but also faces challenges such as data privacy and technical reliability, which provides theoretical support and practical inspiration for the future construction of academic evaluation system.

**Keywords:** AIGC technology; Students' academic evaluation; System construction

## 1 INTRODUCTION

The academic evaluation system is a set of methods and standards used to systematically and scientifically evaluate students' learning results in the educational process. It covers the evaluation of examinations, homework, classroom performance and practical ability, aiming to promote the all-round development of students. As early as in 2018, China's Ministry of Education issued "about speed up the construction of high level undergraduate education comprehensively improve personnel training ability of opinions", clearly put forward to build diversified academic evaluation system, the integrated use of written, oral and standard answer test, comprehensive evaluation students to master knowledge and use ability, to improve students' comprehensive quality, enhance their communication, team cooperation and practice innovation ability [1]. In recent years, a number of policy documents further emphasize the need to change the unscientific evaluation orientation, improve the academic evaluation system, and promote the reform of the university evaluation system.

At the same time, the rapid development of generative artificial intelligence (AIGC, Artificial Intelligence Generated Content) technology has brought new possibilities for the academic evaluation system. AIGC technology, through algorithm and big data analysis, can automatically generate text, images, audio and video content, which has great application potential in the field of education [2]. Its application in academic evaluation not only enriches the content of the evaluation system, but also significantly improves the efficiency and accuracy of data collection, processing and analysis. Therefore, this paper will discuss how AIGC technology can empower the university academic evaluation system, the whole process from data collection, cleaning, analysis to the construction of diversified evaluation model, and reflect on its potential risks, and put forward corresponding reform suggestions.

## 2 APPLICATION SCENARIO OF AIGC TECHNOLOGY IN THE ACADEMIC EVALUATION SYSTEM

With its advantages in data processing, deep learning, intelligent analysis and other aspects, AIGC technology has brought innovative ideas and reform impetus to the academic evaluation system. It can not only improve the efficiency and accuracy of the evaluation process, but also deeply explore students' learning behavior and academic performance from multiple dimensions, helping to build a more scientific, diversified and personalized academic evaluation system. Next, the specific application scenarios of AIGC technology in the undergraduate academic evaluation system will be discussed from four aspects: automatic data collection and processing, stereoscopic chemical performance analysis, diversified evaluation model construction and personalized learning strategy support.

### 2.1 Automatic Data Collection and Processing

The AI system adopts a series of efficient and accurate technical means to automatically collect students' academic data. Through the education platform and learning management system used by students, monitor and record students' learning activities in real time; analyze the students' learning and learning behavior data, such as the frequency of browsing course content, stay time, search keywords, etc., to infer students' learning interest and understanding degree;

obtain the intelligent question bank and online test system, and then evaluate the students' knowledge mastery. The role of artificial intelligence in data cleaning, integration and standardization is deeply reflected in the efficiency and accuracy in the data processing steps. First, in the process of data cleaning, AI technology can automatically identify and correct errors, inconsistencies and missing values in the data set. Through machine learning algorithms, you can learn the patterns of normal data to identify outliers and take appropriate measures to process them, such as filling in missing data or removing abnormal observations. Furthermore, duplicate records in the data can be identified and resolved, ensuring the purity and uniqueness of the dataset. Second, when it comes to data integration, AI is able to process data from multiple sources and seamlessly merge it together. Including data transformations and fusions in different formats, structures, and types. By understanding the internal correlation between the data, intelligently matching the merged data records, eliminating the problem of data silos, and creating a unified and integrated data view. Thirdly, in the process of data standardization, AI algorithms can automatically scale the data to a specific range, or convert it to a specific distribution, ensuring the comparability between different datasets or data features. This is crucial for subsequent data analysis and modeling, because the standardized data can more accurately reflect the real-world rules, thus improving the predictive ability and explanatory power of the model.

## **2.2 Analysis of Stereochemical Situation Performance**

Through advanced algorithms and big data technology, artificial intelligence conducts in-depth mining and analysis of students' learning data. By analyzing data such as students' test scores, homework completion and class performance, Identify the difficulties and problems that students encounter in the learning process; By analyzing the students' learning behaviors and habits, Predict their future academic performance; By analyzing the students' interests and preferences, Recommend suitable learning resources and courses for them; Through the deep-learning algorithms, Processing and analyzing large amounts of academic data, Such as class performance, homework completion, test scores, participation in extracurricular activities, Identify potential factors and risk points that may affect academic performance; By analyzing students' interactions, online forum posts, and so on, Indirect assessment of the students' emotional status. In practice, these predictions and analysis provided by AI can be used to formulate more accurate education policies, adjust teaching methods, and provide customized student support services, so as to reduce academic risks and improve students' overall academic performance. This use of AI technology for academic risk identification and performance prediction not only enhances the personalization of education, but also improves the quality and efficiency of education.

## **2.3 Construction of Diversified Evaluation Model**

Artificial intelligence technology is integrated into the construction of diversified evaluation models, and the accuracy, efficiency and comprehensiveness of the evaluation process are improved through advanced algorithms and machine learning methods. Deep analysis of multi-dimensional data to realize comprehensive and accurate evaluation of individuals or systems, including: algorithms adapted to different evaluation scenarios, such as feature extraction and pattern recognition techniques; intelligent evaluation rules and standards to adapt to complex and changeable environment and requirements; intelligent models including neural network to process and analyze large-scale evaluation data sets, and mine potential information and rules; and automatic feedback and continuous optimization of evaluation results through deep learning.

## **2.4 Personalized Learning Strategy Support**

Artificial intelligence can play a role in providing personalized learning strategies, optimizing and improving learning effects. First of all, artificial intelligence can analyze a large amount of data to understand students' learning habits, learning interests and difficulties in learning, so as to make personalized learning plans for students. This personalized learning plan can improve students' learning efficiency and enable students to master more knowledge in a short time. Secondly, AI can provide students with intelligent learning guidance. Through real-time monitoring of students' learning situation, students' learning problems can be found in time, and targeted guidance suggestions can be provided. In this way, students can get timely help when they encounter difficulties to improve their learning effect. Thirdly, artificial intelligence can provide students with intelligent learning resource recommendation. Through the analysis of students' learning needs, suitable learning resources are recommended for them, so that students can make more effective use of learning resources and improve the learning effect. Finally, AI can realize intelligent educational evaluation. Through the analysis and evaluation of students' learning outcomes, we can provide students with detailed feedback on their learning outcomes, helping them to understand their learning situation, so as to find ways to improve their learning effects.

# **3 REFLECTION ON THE REFORM OF THE ACADEMIC EVALUATION SYSTEM BASED ON AIGC**

## **3.1 Students' Point of View: Let Learning Happen and Stimulate Internal Motivation**

From the perspective of constructivism, learners themselves are the best subject of evaluation. Compared with evaluating the learning results obtained by students, it is more important to evaluate the process of how students construct knowledge. At present, in the academic evaluation system of college students in China, the evaluation subject

is relatively single, and schools, colleges or teachers have absolute authority on the students' academic evaluation, while students have fewer opportunities to participate in the evaluation, the participation platform is limited, and the enthusiasm is not high. Even if there are opportunities for students to participate, the weight of the results is very limited, which seriously weakens the motivation of students to actively explore and learn, and has a negative impact on the objectivity and fairness of the evaluation results. By introducing an academic evaluation system based on artificial intelligence-generated content (AIGC), we can fundamentally change this situation. AIGC technology can provide personalized learning resources and tasks according to students' learning progress and interests, so as to stimulate students' internal motivation to learn. Students are no longer single knowledge recipients, but become active knowledge explorers and creators. In this way, students can experience a sense of achievement and satisfaction in the learning process, and further enhance their interest in learning and self-directed learning ability.

### **3.2 Teacher's Point of View: Make Teaching Accurate and Improve Teaching Quality**

In the traditional academic evaluation system, teachers mainly rely on the manual recording and analysis of students' learning data, which often leads to the intermittent and incomplete recording of students' learning process. In the process of formative evaluation, this evaluation system often has one-sidedness and standardized evaluation standards, which is difficult to meet the personalized needs of each student. In the teaching process, teachers often feel powerless, and it is difficult to fully understand the learning situation of each student. In contrast, the educational evaluation system with AI participation can have a more comprehensive understanding of students' learning process and effects by collecting and analyzing large amounts of learning data. The artificial intelligence system can monitor students' learning behavior in real time, and analyze their learning habits, knowledge mastery and thinking patterns. Through machine learning algorithms, artificial intelligence can identify students' learning disabilities and provide personalized learning advice and guidance, which greatly helps teachers to refine the education of each student in real time, thus improving the accuracy of teaching. By analyzing the students' learning data, teachers can understand the learning situation of each student in real time and develop personalized teaching plans. This kind of precise teaching can not only help students to better master the knowledge, but also enable teachers to carry out teaching activities more efficiently. Teachers can make use of the rich teaching resources generated by artificial intelligence to give targeted guidance and explanation, so as to improve the teaching quality and maximize the teaching effect. In addition, AI technology can also help teachers design their courses and optimize their teaching content. By analyzing the students' learning data, teachers can find out which teaching contents are not well mastered, so as to adjust the teaching strategies and optimize the course content. AI can also help teachers automatically correct homework and exams, reducing their workload and giving them more time and energy into instructional design and student tutoring.

### **3.3 School Angle: to Make the Management Orderly and Optimize the Allocation of Educational Resources**

Students' academic achievement, as the key indicator to measure the overall education level, teaching quality and education effectiveness of the school, is always the core content of evaluating the effectiveness of the school education. The implementation of academic quality evaluation is a complex and continuous process, and the evaluation index system is not an unchanging template. It needs to make timely adjustments according to the changes of spatial and temporal background and objective conditions to ensure the accuracy and effectiveness of the evaluation. As the administrator of education, schools shoulder the responsibility of efficiently allocating educational resources and improving the quality of education. Although the traditional academic evaluation system has begun to take shape of formative evaluation, it often exists between teachers and various departments in a scattered state, and the lack of systematic data center, which leads to the inability of schools to fully grasp students' learning and teachers' teaching information. Therefore, it is impossible to build a higher-level, scientific and effective academic evaluation system. Faced with this challenge, the application of AIGC technology has provided strong support for school management. Through intelligent data analysis and processing, schools can formulate educational policies and management strategies more scientifically. For example, the school can reasonably plan the curriculum and teaching resources according to the students' learning data, optimize the allocation of teachers, and ensure that every student can receive the most suitable education for himself. In addition, AIGC technology can also help schools to realize the intelligent examination and evaluation system, reduce the interference of human factors, and ensure the fairness and accuracy of the evaluation results. Through these measures, the school can achieve more orderly and efficient management, and provide a better education environment for students and teachers, so as to improve the overall quality of education.

## **4 CONCLUSIONS AND REVELATION**

The application of artificial intelligence technology in the construction of academic evaluation system is a field full of both challenges and opportunities. From the perspective of the development trend, the application of artificial intelligence in the academic evaluation system is gradually deepening. The application of artificial intelligence can evaluate students more accurately and comprehensively based on big data analysis, which can improve the efficiency of academic evaluation and reduce labor cost and time cost; promote the fairness of academic evaluation, avoid the influence of artificial subjective judgment on the evaluation results, and make the evaluation results more objective and fair.

However, the application of AI in the academic evaluation system also faces many challenges. First, in terms of

theoretical research, it is still necessary to further explore how to more effectively integrate advanced technologies such as deep learning and natural language processing into academic evaluation models, so as to improve the accuracy and comprehensiveness of evaluation, especially in a complex and diverse educational environment. Second, in terms of practical application, how to use artificial intelligence technology to achieve dynamic and process evaluation is still an important topic, and it is urgent to explore its specific implementation methods in the monitoring and optimization of the learning process. Third, in terms of educational equity, although artificial intelligence helps to narrow the educational gap, it may also lead to new inequalities due to the algorithm bias. Therefore, it is very important to ensure the fairness and applicability of the algorithm. Fourth, in terms of ethics and privacy protection, the academic evaluation system must strictly abide by ethical norms, especially in the process of the collection, processing and storage of student data, to ensure that information is transparent and systematically interpreted, students' privacy is strictly protected, and the relevant legal and moral standards are followed to avoid potential risks of abuse.

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