Evaluation and empirical analysis of the influence of disciplinary competition on innovation practice ability

Zhang Liu¹, Yiheng Zhao¹, Guiying Fang¹ and Yong Huang¹
¹School of Computer and Information Engineering, Jiangxi Agricultural University, Nanchang 330045, China

Corresponding author and e-mail: Guiying Fang, fgy8629930@jxau.edu.cn

Abstract. Mathematical modelling is an embodiment of the application of mathematics in various fields. Exploring the effect of mathematical modeling on the innovative practical ability of college students is conducive to college students’ understanding of mathematical modeling competitions and colleges’ education on mathematical modeling courses. It can also stimulate the confidence of students majoring in mathematics in their majors. On the basis of clarifying the theoretical basis and basic principles of the evaluation of innovative practical ability, this paper combines the characteristics of current college students to construct a college student’s innovation that includes 5 first-level indicators and 15 second-level indicators. Practice system. By the Delphi method and improved analytic hierarchy process we can determine the index weights and the weighted average model of fuzzy mathematics to analyze the collected evaluation membership matrix. We also obtain the membership matrix of the impact of mathematical modeling on the innovative practical ability of college students. Using the principle of maximum membership to get the degree of influence $V_3 = 0.3941$, the research results show that the mathematical modeling competition can improve the innovative and practical ability of college students.

1. Introduction
Cultivating innovative talents has become the main theme of higher education reform in the new era. In the practice of higher education reform in the 21st century, the task of higher education is to train senior specialized talents with innovative spirit and practical ability. Over the years, successful practice at home and abroad has proved that through subject competition is a feasible way to enhance the innovation ability of college students. Internationally, American college student mathematics and interdisciplinary (MCM/ICM) is the origin of all kinds of mathematical modeling competitions today. It attracts world-renowned universities to participate every year. It is one of the most famous international college student competitions; as of the end of 2019, More than 160 competitions have been successfully held, including innovation and entrepreneurship competitions, college students' mathematical modeling competitions, and electronic design competitions. Well-known universities such as Peking University and Tsinghua University attach great importance to cultivating students' innovative ability through these discipline competitions. At present, domestic and foreign research on subject competitions is mainly reflected in the following aspects: (1) Related research on the management and organization of subject competitions and improving the quality of competitions; (2) Relying on subject competitions for teaching curriculum settings and teaching reform Related research;
(3) Research on the role and influencing factors of subject competition on talent training. For example, Wang and Yu [1] studied how to use subject competitions to lead the improvement of the quality of innovative talents, Fang and Hu [2] discussed how mathematical modeling competitions can promote education and teaching reforms and the cultivation of innovative talents. Li and Zhong [3] make innovations to college students based on particle swarm optimization. The key factors affecting performance are studied. All of these provide theoretical support and practical basis for our research on innovation performance of mathematical modeling.

However, the existing research also has some shortcomings. One is that the research on the promotion of talent training by competition generally adopts qualitative methods. Most of the researches summarize the work of promoting talents by competition. Although conclusions are presented, this kind of summary is slightly insufficient in theory. There is almost no relevant research on the comprehensive evaluation of talent training performance based on the National College Student Mathematical Modeling Contest of the Higher Education Club Cup as the research object. Second, some studies on the innovation performance of college students participating in subject competitions only analyze individual influencing variables, but is without systematically quantitative analysis. Based on this, this article takes the National College Student Mathematical Contest in Modeling as a specific research object to explore the impact of subject competition on college students’ innovation performance. Through professional and systematic combing, the evaluation indicators of the impact of discipline competitions on innovation practice ability are constructed in an all-round and multi-angle manner, and through the improved analytic hierarchy process and fuzzy mathematics evaluation method, the empirical analysis of these evaluation indicators in the discipline competition has an impact on innovation. The impact of practical ability provides effective countermeasures and suggestions for furthering reform plans to improve the innovative practical ability of college students.

2. Construction of the evaluation system of innovative practical ability

2.1. The connotation of innovative practical ability
The innovation ability refers to the ability to provide valuable new ideas, new ideas, new methods, etc. in various practical activities that are different from conventional or different ideas [4]. Innovation ability is a comprehensive ability, and it does not indirectly act on innovation. Practice activities, but directly affect and restrict the progress of innovative practice activities. Innovation is generally divided into three parts: innovation awareness, innovative thinking and innovative skills. For college students, innovation ability reflects the spirit of exploration possessed by college students And a strong willingness to master new methods and new things, as well as the ability to creatively analyze and solve problems with the knowledge you have mastered [5]. The so-called practical ability refers to the application of learned knowledge and skills to life and work to solve Competence for practical problems. It can be said that whether it is innovation ability or practical ability, it is a kind of comprehensive ability, which is based on the knowledge and skills that have been mastered.

2.2. Principles for constructing indicators for evaluating innovative practice capabilities
For the various subject competitions participated by college students, they all start from practical problems and solve problems under certain constraints and specific requirements. The National College Student Mathematical Contest in Modeling is extremely important to show students' innovative and practical ability. Tournament. To study the influence of mathematical modeling competitions on college students' innovative practical ability, we must first explore the factors that influence subject competitions on college students' innovative practical ability. The evaluation process is based on the following four principles [6].

2.2.1. Principle of scientificity: As a system for judging innovative practical ability, it should be guided and regulated by scientific theories. It is necessary to ensure the objective regularity of innovative practical ability and respect the laws of society. Reflecting the relationship between
indicators, and at the same time, indicators at the same level cannot have an inclusive relationship, and there must be clear divisions and standards for indicators.

2.2.2. Systematic principle: The innovative practical ability of college students is a multi-level complex system that contains a variety of characteristic elements. It must be able to reflect the innovative practical ability of college students from multiple aspects and multiple levels to ensure that the evaluation results are comprehensive and accurate. It reflects the level of college students' innovative and practical ability. However, comprehensiveness is not a simple stacking of indicators. It should be able to reflect the logical relationship between the indicators, and the connotation should be clear, according to the progressive relationship of levels, to form a hierarchically ordered and reasonably connected system.

2.2.3. Operational principles: The selection of indicators must be observable and measurable. The innovative practical ability system is decomposed, and the huge and complex system is divided into different levels and different indicators. These indicators must be able to be observed, measured, and quantitatively qualitative. Reflecting the situation of the evaluated person, a clear and clear scale can be drawn, and the collection of evaluation information should be easy to collect and operable.

2.2.4. The principle of combining qualitative and quantitative: Some of the indicators of the innovative practice ability system can be evaluated through data collection, while some are difficult to evaluate through pure data, and need to rely on language description for qualitative. Therefore, in designing college students to innovate when practicing the ability system, it is necessary to combine qualitative evaluation with quantitative evaluation.

2.3. Analysis and construction of evaluation indicators
The influence of mathematical modeling competitions on college students' innovative practical ability is determined by multiple factors and multiple indicators, and the structure is complex. The establishment of multi-angle and multi-level evaluation system indicators to analyze the innovative practice ability can fully and scientifically reflect the innovative practice level of college students. Refer to the relevant literature that reflects the innovative practical ability [7-11], and combined with the practice of college students' mathematical modeling competition for many years, we have established an index system composed of 5 first-level indicators and 15 second-level indicators to evaluate college students' innovative and practical ability.

2.3.1. Basic ability: Basic ability is the basic requirement of innovative practical activities, which includes the following three aspects: (1) Basic knowledge level: Innovative practice activities are innovation and practical application on the basis of known knowledge and skills, mainly referring to the mastery of basic disciplines such as natural sciences and social sciences. (2) Office software application ability: mainly refers to the use of document editing software. (3) Self-learning ability: After all, the storage of personal knowledge is limited, and it is impossible to master all knowledge and information. Facing problems, being able to spontaneously and effectively obtain the required knowledge and information is the basic requirement of innovative practical activities.

2.3.2. Professional ability: Professional ability is a supplement to basic ability, but it is different from basic ability. It includes the following aspects: (1) Professional knowledge level: it is the mastery of professional field subject knowledge, professional frontier knowledge and professional tools (The mastery and use of programming software, surveying and mapping instruments, etc.). (2) Knowledge interdisciplinary ability: the mastery of various subjects can be integrated.

2.3.3. Practical ability: Practical ability is the specific and practical operation in innovative practical activities. The strength of practical ability determines the degree of realization of problem-solving in
innovative practical activities. It includes the following three aspects. (1) Self-management and coordination ability: self-control, use time scientifically and certain frustration ability. (2) Team planning ability: interpersonal communication, teamwork, team management, task assignment, etc. (3) Actual problem-solving ability: the purpose of practical activities is to solve problems.

2.3.4. **Innovative learning ability:** (1) Problem-finding ability: the ability to find and ask questions, have strong curiosity in solving practical problems, can capture information and discover problems. (2) Knowledge update ability: learn independently according to the problem, update and improve knowledge in time, take the initiative explore advanced knowledge. (3) Deny learning ability: boldly express opinions, have the courage to question and transcend, do not blindly follow other people's ideas, propose new ideas, new methods, and new opinions.

2.3.5. **Creative thinking ability:** (1) Intuitive judgment ability: make direct and rapid judgments on new problems, and can put forward relevant and reasonable viewpoints and hypotheses. (2) Logical thinking ability: use reasoning to judge new problems from the outside to the inside, from abstract to concrete Summarize the problem in the form of (3) Inspiration and imagination: it is undeniable that when solving a new problem, the sudden burst of inspiration and the good effect of the in-depth use of inspiration.

To evaluate the impact of mathematical modeling competitions on college students' innovative practice and its effect, we must first establish an index system that not only meets the characteristics of college students' abilities, but also ensures accurate evaluation. According to the above analysis of evaluation indicators, it can be constructed to influence college students' innovative practice Ability evaluation index system.

2.4. **Determination of the weight of the evaluation system**

The weight reflects the degree of influence of a certain index on another index, and the degree of influence of an index on the ability of innovative practice. Determining the weight of the index is one of the key links in the comprehensive evaluation. Whether the weight is appropriate or not affects the comprehensive evaluation. There are many methods for determining weights, such as Delphi method, expert estimation method, weighted statistics method, frequency statistics method, and analytic hierarchy process. In this paper, Delphi method is used to determine the judgment matrix, and then the improved analytic hierarchy process is used to determine the weight of indicators.

The Delphi method is also known as the expert letter survey method. That is, according to the established procedures, the expert group members are asked separately, after sorting and summarizing the statistics, they are anonymously reported to the expert group members, and then consulted, and then fed back. Repeatedly, the expert group opinions tend to be unified. The analytic hierarchy process determines the weights, that is, the two indicators are compared to determine the degree of importance between the two indicators. The comparison will use the 1-9 scale method, see Table 1 below.

**Table 1.** The meaning of 9 scale method.

| Scale value | Index i is more important than index j | Index j is more important than index i |
|-------------|--------------------------------------|--------------------------------------|
| 1           | Equally important                    |                                       |
| 3           | Slightly important                   |                                       |
| 5           | Obviously important                  |                                       |
| 7           | Strongly important                   |                                       |
| 9           | Extremely important                  |                                       |
| 2,4,6,8     | The middle value of two adjacent judgments | If the index j is more important than the index, the judgment value is b. Index i is more important than index j, then the degree is 1/b |
The method of finding the eigenvector is to adopt the square root method, because the judgment matrix itself is subjective, even if the judgment matrix is verified by the Delphi method, the subjective deviation cannot be eliminated, so the eigenvector does not need too high precision. According to the questionnaire "Consultation on the relative importance of college students’ innovative practice indicators" uses the Delphi method to process the opinions of the expert group to obtain the final judgment matrix. Taking the first-level indicator as an example, the final judgment matrix is shown in Table 2.

**Table 2.** Judgment matrix of college students' innovative practical ability.

| Index              | Basic Ability | Professional Ability | Practical Ability | Innovative Learning Ability | Innovative Thinking Ability |
|--------------------|---------------|----------------------|-------------------|----------------------------|----------------------------|
| Basic Ability      | 1             | 1/2                  | 1/3               | 1/4                        | 1/3                        |
| Professional Ability | 2             | 1                    | 1/3               | 1/2                        | 1/2                        |
| Practical Ability  | 3             | 3                    | 1                 | 1/2                        | 1/2                        |
| Innovative Learning Ability | 4   | 2                    | 2                 | 1                          | 2                          |
| Innovative Thinking Ability | 3 | 2                    | 2                 | 1/2                        | 1                          |

From this we can get the judgment matrix $U$:

$$U = \begin{bmatrix} 1 & 1/2 & 1/3 & 1/4 & 1/3 \\ 2 & 1 & 1/3 & 1/2 & 1/2 \\ 3 & 3 & 1 & 1/2 & 1/2 \\ 4 & 2 & 2 & 1 & 2 \\ 3 & 2 & 2 & 1/2 & 1 \end{bmatrix}$$

Calculated by the above improved analytic hierarchy process, and then by $B=\lg U$, we have

$$B = \begin{bmatrix} 0 & -0.3010 & -0.4771 & -0.6021 & -0.4771 \\ 0.3010 & 0 & -0.4771 & -0.3010 & -0.3010 \\ 0.4771 & 0.4771 & 0 & -0.3010 & -0.3010 \\ 0.6021 & 0.3010 & 0.3010 & 0 & 0.3010 \\ 0.4771 & 0.3010 & 0.3010 & -0.3010 & 0 \end{bmatrix}$$

Now we find the optimal transfer matrix $C$ of $B$, the elements of $C$ are

$$C = \begin{bmatrix} 0 & -0.2158 & -0.4419 & -0.6725 & -0.5271 \\ 0.2158 & 0 & -0.2261 & -0.4567 & -0.3113 \\ 0.4419 & 0.2261 & 0 & -0.2306 & -0.0852 \\ 0.6725 & 0.4567 & 0.2306 & 0 & 0.1454 \\ 0.5271 & 0.3113 & 0.0852 & -0.1454 & 0 \end{bmatrix}$$

Solve the quasi-optimal consistent matrix of $U^*$, $U^* = 10^U$:

$$U^* = \begin{bmatrix} 1 & 0.6084 & 0.3615 & 0.2126 & 0.2971 \\ 1.6438 & 1 & 0.5942 & 0.3494 & 0.4884 \\ 2.7663 & 1.6829 & 1 & 0.5880 & 0.8219 \\ 4.7043 & 2.8619 & 1.7006 & 1 & 1.3977 \\ 3.3659 & 2.0477 & 1.2167 & 0.7155 & 1 \end{bmatrix}$$
Finding the eigenvector of the matrix \( U^* \) is the required weight. Here, the square root method is used to find the eigenvector, and normalization is performed to obtain the weight: \( (0.0742, 0.1219, 0.2052, 0.3490, 0.2479) \).

Similarly, the weight of the secondary index can be obtained as: (1) Basic Ability: \( (0.3445, 0.1086, 0.5469) \), (2) Professional Ability: \( (0.5842, 0.2318, 0.1840) \), (3) Practical Ability: \( (0.2493, 0.1571, 0.5936) \), (4) Innovative Learning Ability: \( (0.5936, 0.1571, 0.2493) \), (4) Innovative Thinking Ability: \( (0.2118, 0.7091, 0.0791) \). The final weights obtained by the improved analytic hierarchy process are shown in Table 3. At this point, the weights of the innovative practice indicator system have been determined.

| Goals                  | First-level indicators | Second-level indicators                      |
|------------------------|------------------------|----------------------------------------------|
| Innovative practical ability | Basic Ability          | Basic knowledge level                        |
|                        | 0.0742                 | 0.3445                                       |
|                        | Office software ability| 0.1085                                       |
|                        | Self-learning ability  | 0.5469                                       |
|                        | Professional knowledge level | 0.5842                                      |
| Professional Ability   | 0.1219                 | Foreign language ability                     |
|                        | 0.2318                 | 0.2318                                       |
|                        | Knowledge cross-competence | 0.1840                                      |
|                        | Self-management and coordination ability | 0.2493                                       |
|                        | 0.2493                 | Team planning ability                        |
|                        | 0.1571                 | Practice problem solving skills              |
|                        | 0.5936                 | Problem-finding ability                      |
| Innovative Learning Ability | 0.3490                 | Knowledge update ability                     |
|                        | 0.1571                 | Negative learning ability                    |
|                        | 0.2493                 | Intuitive judgment                           |
|                        | 0.2118                 | logical thinking ability                     |
|                        | 0.7091                 | Inspiration and imagination                  |
|                        | 0.0791                 |                                              |

3. Empirical analysis of the influence of mathematical modeling competition on innovative practical ability

3.1. Establish an evaluation model
After constructing the innovation practice evaluation system, this paper adopts fuzzy mathematics method to comprehensively evaluate the effect of the modeling competition on the innovation practice ability of college students. Fuzzy comprehensive evaluation decision-making is a very effective multi-
factor decision-making method for comprehensive evaluation of affairs affected by multiple factors. The mathematical model of fuzzy comprehensive evaluation decision-making is composed of three elements: (1) Factor set, (2) Judgment set, (3) Single-factor judgment. Finally, the evaluation result is calculated.

3.2. Establish a fuzzy evaluation model
(1) Factor set: innovative practice indicators \( U \) can be divided into basic ability \( U_1 \), professional ability \( U_2 \), practical ability \( U_3 \), innovative learning ability \( U_4 \), innovative thinking ability \( U_5 \), that is, the first-level indicator factor is \( U = \{U_1, U_2, U_3, U_4, U_5\} \). At the same time, the improved analytic hierarchy process is used to give the index weight coefficient as shown in Table 3.

(2) Evaluation set: \( V = \{v_1, v_2, v_3, v_4, v_5\} \) in which \( v_1 \) indicates that there is not any improvement, \( v_2 \) means there is a little improvement, \( v_3 \) means there is improvement, \( v_4 \) means there is a big improvement, \( v_5 \) means there is a very big improvement.

(3) Single factor evaluation: Ask a number of students who have participated in mathematical modeling to evaluate the factors of each secondary index. Obtain the membership degree matrix. Finally, the comprehensive calculation will take the weighted average model \( M = \langle *, + \rangle \), the calculation formula is \( v_j = \sum_{i=1}^{n} u_i r_{ij} \), where is the weight \( u_i \) of a certain factor, \( r \) is the evaluation value matrix of the factor. The weighted average model takes all factors into consideration in a balanced manner according to the weight, and considers each Factors play a role. The evaluation of the final calculated mathematical modeling competition on the actual system of innovation is based on the principle of maximum membership.

3.3. Data collection and processing
A questionnaire survey was used to survey 210 students who had participated in a mathematical modeling competition. 160 questionnaires were collected. The processing method was as follows: Taking the basic knowledge level in basic ability as an example, 12 people showed that they did not evaluate the basic knowledge level. Improved, 49 people showed a little improvement, 65 people showed an improvement, 22 people showed a big improvement, and 12 people showed a great improvement. Then the evaluation matrix for the basic level is \( (0.075, 0.3063, 0.4063, 0.1375, 0.0750) \).

On the 160 data collected in the questionnaire, the reliability of the collected data is tested by the test-retest reliability method, that is, the same test method is used to test the same group of testers twice, and then the correlation between the two test data is calculated Coefficient of sex. By comparing the data of the two inspections, the calculated correlation coefficient is 0.976, indicating that the data is credible. This article uses the results of the first survey, which is the above-mentioned data.

By processing the collected data, the evaluation membership matrix of the three indicators of basic ability can be obtained as

\[
 R_i = \begin{pmatrix}
 0.07500 & 0.30625 & 0.40625 & 0.13750 & 0.07500 \\
 0.01250 & 0.29375 & 0.24375 & 0.33125 & 0.11875 \\
 0.01875 & 0.35000 & 0.36250 & 0.08125 & 0.18750 \\
\end{pmatrix}.
\]

In the same way, the evaluation membership matrix of the three indicators of professional competence is
The evaluation membership matrix of the three indicators of practical ability is

\[ R_2 = \begin{pmatrix} 0.02500 & 0.18125 & 0.52500 & 0.18750 & 0.08125 \\ 0.30000 & 0.46250 & 0.13125 & 0.08750 & 0.08175 \\ 0.01250 & 0.35625 & 0.46875 & 0.10000 & 0.06250 \end{pmatrix}. \]

The evaluation membership matrix of the three indicators of innovative learning ability is

\[ R_4 = \begin{pmatrix} 0.11250 & 0.36250 & 0.36250 & 0.08125 & 0.08125 \\ 0.13125 & 0.17500 & 0.41250 & 0.20000 & 0.08125 \\ 0.02500 & 0.25000 & 0.46250 & 0.20000 & 0.06250 \end{pmatrix}. \]

The evaluation membership matrix of the three indicators of innovative thinking ability is

\[ R_5 = \begin{pmatrix} 0.06250 & 0.30000 & 0.43125 & 0.14375 & 0.06250 \\ 0.07500 & 0.35000 & 0.35000 & 0.09375 & 0.13125 \\ 0.13125 & 0.40625 & 0.28750 & 0.09375 & 0.08125 \end{pmatrix}. \]

3.4. Evaluation result calculation

By the fuzzy calculation \( U \circ R \) with the weighted average model as the operator, the evaluation membership matrix of the basic ability can be obtained as \( V_1 = (0.0374, 0.3288, 0.3647, 0.1277, 0.1414) \). Similarly, the membership degree matrix for the evaluation of professional ability can be obtained as \( V_2 = (0.0864, 0.2786, 0.4234, 0.1482, 0.0633) \), The membership degree matrix for the evaluation of practical ability can be obtained as \( V_3 = (0.0571, 0.3278, 0.4241, 0.1224, 0.0687) \), The membership degree matrix for the evaluation of innovative learning ability can be obtained as \( V_4 = (0.0936, 0.3050, 0.3953, 0.1295, 0.0766) \), The membership degree matrix for innovative thinking ability can be obtained as \( V_5 = (0.0768, 0.3439, 0.3623, 0.1043, 0.1127) \). That is, the evaluation membership matrix of the five indicators of innovative practical ability is

\[ V = \begin{pmatrix} 0.0374 & 0.3288 & 0.3647 & 0.1277 & 0.1414 \\ 0.0864 & 0.2786 & 0.4234 & 0.1482 & 0.0634 \\ 0.0571 & 0.3278 & 0.4241 & 0.1224 & 0.0686 \\ 0.0936 & 0.3050 & 0.3953 & 0.1295 & 0.0766 \\ 0.0768 & 0.3439 & 0.3623 & 0.1043 & 0.1127 \end{pmatrix}. \]

Then perform the fuzzy comprehensive evaluation of the first-level index, that is \( V^* = U \cdot V \), the calculation operator is a weighted average model \( M = (\ast, +) \). Finally, it is obtained \( V^* = (0.0769, 0.3179, 0.3941, 0.1239, 0.0872) \).

According to the principle of maximum membership degree, it is the maximum value in the final evaluation matrix, which can best reflect the evaluation results \( V^*_3 = 0.3941 \), that is, mathematical modeling improves the innovative practical ability of college students.
4. Conclusions

Many students are particularly confused about their majors, especially those majoring in mathematics. A considerable number of students think that the professions related to mathematics are only teachers, but in fact mathematics is widely used, such as statistical surveys, statistical information management, quantitative analysis, insurance actuarial, financial engineering and big data engineers, data analysts, data mining engineers, hardware engineers. Many students who have participated in mathematical modeling competitions realize this, and mathematical modeling makes students realize that mathematics is in a wide range of fields [12]. The internal role, which greatly stimulated students' curiosity.

Through the interviews with the team members who participated in the mathematical modeling competition, they all mentioned that after participating in mathematical modeling, their enthusiasm for learning has greatly increased. The mathematical modeling competition not only helps students prove the knowledge learned in the books. The theory also allows them to understand the wide range of applications of mathematics, as well as the process and steps of solving specific practical problems, turning cold words into vivid examples, allowing students to truly feel the application of knowledge in practice, so It is a virtuous circle to promote the learning process. Mathematical modeling allows students to get out of the classroom and come into contact with the practical problems of GF and talents in different disciplines. The way of thinking has also become a more comprehensive dialectical thinking, which has cultivated the students. The ability to solve practical problems, unknowingly integrate the knowledge of various disciplines, to form their own structure and theory. At the same time, mathematical modeling allows students to change the knowledge and useless thinking, and ask questions about solving practical problems in modeling. The problem is that students actively seek out different professional knowledge to understand the theory behind the knowledge they have learned. This point still affects the students after the mathematical modeling competition is over, and makes the students take the initiative to learn, so mathematics Modeling also allows students to go deep into the classroom.

It can be seen that mathematical modeling has greatly cultivated students' initiative in learning and a strong interest in learning unknown knowledge theories. At the same time, the impact of mathematical modeling on students is not limited to this, and it has also improved the use of mathematical thinking and computer technology. The ability to solve practical problems, cultivate the ability to innovate and the spirit of solidarity and mutual assistance has comprehensively improved the quality of students. Only by solving the problem of low awareness of college students can the ability of competition organization of college students be fully cultivated, more relevant courses are built, and a unified campus is formed. This innovative and entrepreneurial "campus atmosphere" allows college students to experience the role of mathematical modeling, ACM and other competitions, enhances the awareness of college students to participate in competitions, and allows students to enhance their awareness of innovation in the competition, and stimulate entrepreneurship inspiration, and improve their innovative practice capabilities.

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