

# *Integration of Institutional Management and Emotional Management in College Student Management under the Background of Innovative and Entrepreneurial Talent Training*

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**Abstract:** University management is one of the important components of social management, and the basic laws of management must be followed in order to establish a scientific university management system. The effectiveness of college student management has an important impact on the development of university. In the current college management work, there is an imbalance between system management and emotional management, which leads to some problems in college student management. In order to solve these existing problems, based on the background of innovative and entrepreneurial talent training, this paper studied the integration of institutional management and emotional management. It was found that the integration of system and emotion can improve the efficiency and flexibility of management work in university, and can also cultivate many entrepreneurial talents for the school, let students start their own businesses, and stimulate students' innovative potential. Compared with before the integration, the average management efficiency of various management work has increased by 10.66% and the number of innovative students has also increased by 25%. It highlights the main role of students in the management of university, and conforms to the principle of people-oriented student management.

## 1. Introduction

As one of the main components of social subjects, university promoting and taking the lead in the process of social civilization. If the management efficiency of university is not high, it would inevitably endanger social and economic development. Therefore, how to do a good job in university management has gradually become the focus of everyone's attention [1]. At this stage, there are many hidden dangers in the process of management reform in university. Management is a scientific, perfect and proficient course, which usually requires management staff to have outstanding management skills, and to have self-confidence at work to achieve a very long term. Institutional management and emotional management are two key aspects of contemporary university management, and successful management must coordinate the relationship between the two to make the relationship harmonious [2-3]. However, there are some differences between

institutional management and emotional management in university. As the foundation of university management, system management involves all aspects of the school. Therefore, it is very important to establish a good system management [4-6]. Emotional management is a kind of sincere emotion, which is a requirement for employees and the process of mastering their psychology, and can improve the communication and contact between employees. Under the background of this study, the management of college students should focus on the integration of institutional management and emotional management, so that the needs of teachers and students can be met as much as possible. Thus, a management method with a very harmonious learning and working atmosphere is formed, and the school education is developed.

## **2. Introduction to Management System Related Theories and Hidden Markov Models**

### **2.1 Related Theories**

#### **2.1.1 Emotional Management**

This is a method of ideological and political education, which is characterized by individuality and humanity. This kind of management method first pays attention to people's subjective consciousness and understands the emotional changes expressed by people. The premise of this is to carry out effective communication, resolve conflicts, reach consensus, and build a harmonious and vibrant natural environment. Under such conditions, people's subjective initiative can be brought into full play, imagination can be stimulated, work efficiency can be improved, and organizational goals can be accomplished. Therefore, the most basic of this method is to respect people, and respect people's subjectivity and independence of personality. Only with dignity would people become interested in the organization and work hard for it. In other words, everyone hopes to use effective communication, grasp the real situation, and grasp the most basic demands. When people's psychological needs are respected, they would eventually form cohesion, so they have a sense of trust in the organization, become a member of the organization, and do their best to accomplish the overall goals of the organization. In this process, it can not only accomplish organizational goals, but also reflect the self-worth of organizational members. Especially in the management of college students, it can meet the demands of students' psychological state, let students feel the humanistic feeling in the management, and realize the win-win cooperation between individuals and organizations.

#### **2.1.2 Student Emotion Management**

The most important thing for students' emotional management is to respect people, respecting people and being able to put themselves in their shoes and understand students as the precondition and basic principle, grasp the emotional status of students according to communication and exchange, and sincerely make students feel warm and caring. If the above can be achieved, it would definitely not be difficult for university to educate students in management. The key is to take students as the foothold and destination of teaching management, pay attention to students' learning progress, daily life and emotional state, communicate on an equal footing according to sincere and free soul conversations, sincerely care for students, really deal with their emotional real problems, and create a harmonious relationship between teachers and students to achieve the purpose of harmonious coexistence.

#### **2.1.3 System Management**

Institutional management of university means that university should formulate and improve

school rules and disciplines in accordance with the law. Taking this as a specific guideline, it is mainly to formulate and improve corresponding rules and regulations in classroom teaching, scientific research, personnel department, students, logistics and other aspects. All practical operations need to be based on evidence, violations must be corrected, regulations must be strict, and rules and regulations cannot be changed overnight. The specific system management of student management refers to the establishment and improvement of a comprehensive set of rules and regulations and codes of conduct in the aspects of morality, intelligence, physique, beauty, labor, etc., and the correct guidance, encouragement, and restraint of college students' concepts and behaviors are in line with the training plan of university. In other words, it is necessary to continuously improve various rules and regulations that are strictly implemented and adapted to the specific situation of students. This kind of rules and regulations is not glued to the wall, but is imprinted in the minds of students with comprehensive cultural education and reflected in his actions. The process of student management in colleges and universities, the description of students by managers and the measures and implementation of related work can only be as careful, influential and normative as laws and regulations in national management activities, so that people can really give full play to the importance of rules and regulations in student management methods.

## 2.2 Hidden Markov Model (HMM) Algorithm

The HMM algorithm is a model described by the probability expressed by the main parameters, and its main feature is the statistic describing the random process. It is a double stochastic process, which is mainly composed of two parts, a Markov chain and a general stochastic process. The specific calculation formula is:

$$q_i^{(n+1)} = \sum_{j=1}^N q_j^{(n)} x_{ji}, i = 1, 2, \dots, N \quad (1)$$

$$q_i^{(n)} = \sum_{j=1}^N q_j^{(n)} x_{ij}^n, i = 1, 2, \dots, N \quad (2)$$

Its matrix expression is:

$$q^{(n+1)} = q^{(n)}H \quad (3)$$

$$q^{(n)} = q^{(0)}H^n \quad (4)$$

After the HMM algorithm model is stimulated by emotion, the speed and magnitude of emotion transfer, the model expression is  $\theta = (\varphi, \hat{M}, B)$ . Among them,  $\varphi$  is the emotional initial probability,  $\hat{M}$  is the transition matrix, and  $C$  is the observation matrix. In addition,  $q^{(n)}$  is the current emotion probability distribution,  $q^{(0)}$  is the initial emotion probability distribution, and  $H$  is the emotion state transition matrix.

$\varphi$  is the initial emotion probability vector, which describes various emotion probabilities  $q_i^k (i = 1, 2, \dots)$ . The sum of each probability component is 1. Assuming that the initial probability  $\varphi = \{q_1, q_2, q_3\}$  of the HMM is neutral, at this time, the emotion can be transferred to any of them.

The reasons for dissatisfaction with management work  $H$  that transfer affects learning can be established as:

$$H = \begin{cases} \frac{1}{3} + \frac{2}{3}\delta & \frac{1}{3} - \frac{1}{3}\delta & \frac{1}{3} - \frac{1}{3}\delta \\ \frac{1}{3} - \frac{1}{3}\delta & \frac{1}{3} + \frac{2}{3}\delta & \frac{1}{3} - \frac{1}{3}\delta \\ \frac{1}{3} - \frac{1}{3}\delta & \frac{1}{3} - \frac{1}{3}\delta & \frac{1}{3} + \frac{2}{3}\delta \end{cases} \quad (5)$$

At the same time, in the integration of institutional management and emotional management, the

results can be obtained:

$$H^n = \begin{cases} \frac{1}{3} + \frac{2}{3}\delta^n & \frac{1}{3} - \frac{1}{3}\delta^n & \frac{1}{3} - \frac{1}{3}\delta^n \\ \frac{1}{3} - \frac{1}{3}\delta^n & \frac{1}{3} + \frac{2}{3}\delta^n & \frac{1}{3} - \frac{1}{3}\delta^n \\ \frac{1}{3} - \frac{1}{3}\delta^n & \frac{1}{3} - \frac{1}{3}\delta^n & \frac{1}{3} + \frac{2}{3}\delta^n \end{cases} \quad (6)$$

Among them,  $\delta$  is an adjustable parameter, reflecting the emotional transfer rate. The probability of spontaneous transition to the mood state at the  $n$ th moment is obtained as:

$$q_i^{(n)} = \frac{1}{3} + \left(q_i^{(0)} - \frac{1}{3}\right) \delta^n \quad (7)$$

University better manage and understand students' emotions and students' ability to generate various emotions, and give the definition of emotional energy  $F$ . The emotional energy space corresponding to the student's emotional probability space  $\varphi^n = \{q_1^n, q_2^n, q_3^n\}$  at the  $n$ th moment is  $F_s^n = \{F_1^n, F_2^n, F_3^n\}$ . Emotional intensity management space  $R_s^n = \{R_1^n, R_2^n, R_3^n\}$  is established, among them:

$$R_i^n = F_i^n - F = q_i^n F - \frac{F}{3} \quad (8)$$

If  $F=1$  is defined, there is  $R_i^n = q_i^n - \frac{1}{3}$ ,  $i = 1,2,3$ . In addition,  $R_1^n + R_2^n + R_3^n = 0$  can be obtained, that is, the sum of each intensity component of the emotional management intensity space is 0, and the one with the largest absolute value among all components greater than 0 represents the state of the emotional management intensity space at this time. The specific flow chart is shown in Figure 1.

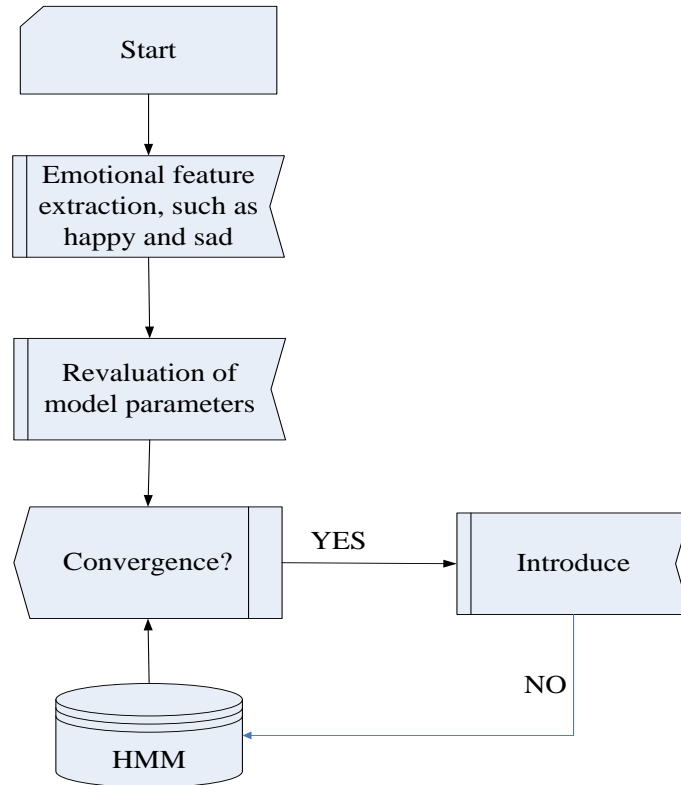


Figure 1: Specific flow chart of HMM algorithm

## 2.3 Advantages of the Integration of Institutional Management and Emotional Management

### (1) Constructing a school centered on the management system

For a school, one of the main basis for evaluating its level is the quality of system management and whether the school has a reasonable, sound and legal system. No matter what kind of university, the system is its guarantee. It has formulated some standardized standards for teachers in their daily work, helping teachers to better carry out their work in daily class management, preventing teachers from producing some bad educational behaviors, and allowing teachers to have better development space, helping teachers to better educate students and improving the school's educational level. Therefore, most excellent managers attach great importance to system management, and also pay attention to the implementation of the system.

### (2) Emotional management becomes the driving force for teachers to consciously accept rules and regulations management

Emotional management is mainly about communication and advice between the manager and the managed, so as to shorten the psychological distance between the two, and to understand, value and support each other. Emotional management enables managers to consider from the perspectives of students and teachers, think about the thoughts of teachers and students, rush students and teachers into urgency, and vigorously promote personalized and democratic system management. Emotional management also enables the administrators to deeply understand the intentions of the administrators. Therefore, it has the responsibility of focusing on the overall situation, sacrificing individual rights and interests, and achieving collective interests, so that more and more teachers and students can take the initiative to become advocates and practitioners of college management. Thus, a good management situation of long-term stability and hand in hand will be formed. The basic functions of emotional management are touching, listening, valuing and supporting. A good school administrator would never set a gap between rules and regulations management and emotional management.

### (3) Emotions cannot replace the system

Emotional management is a useful supplement to institutional management, but it is only a supplement, and emotion can never replace institutional management. When all university administrators carry out their daily work, if their emotions override system management, there would be abnormal small groups around them. This would bring great inconvenience to university to carry out student management work. Therefore, in the implementation of emotional management, it is contact with students and teachers as much as possible, to understand all aspects, and to listen to both. If this is the case, emotional management and institutional management can be integrated very well.

All in all, institutional management and emotional management are a relationship of unity of opposites. If university only achieve a reasonable and standardized system management in student management, and do not pay attention to emotional management and do not implement it in place, it is likely to form a feeling of suffocation. Only the integration of institutional management and emotional management can bring out their greatest abilities. If a school wants to develop in an orderly and sustainable manner, it not only needs a standard management system to regulate the speech and behavior of teachers and students in the whole school, but also must have people-oriented emotional investment and a series of recognition and incentive measures to ensure sustainable development. Whether it is institutional management or emotional management, it is to manage every student well, and to do a good job in student management, so that college students can be managed in an orderly manner and achieve the highest performance.

### 3. Experiment on the Integration of Institutional Management and Emotional Management

On the integration of institutional management and emotion management under the background of innovative and entrepreneurial talents training, 200 students were randomly selected from a university. Among them, 100 male and female students were asked to investigate their satisfaction with the management of the school and whether they were rigid. The satisfaction results are shown in Figure 2.

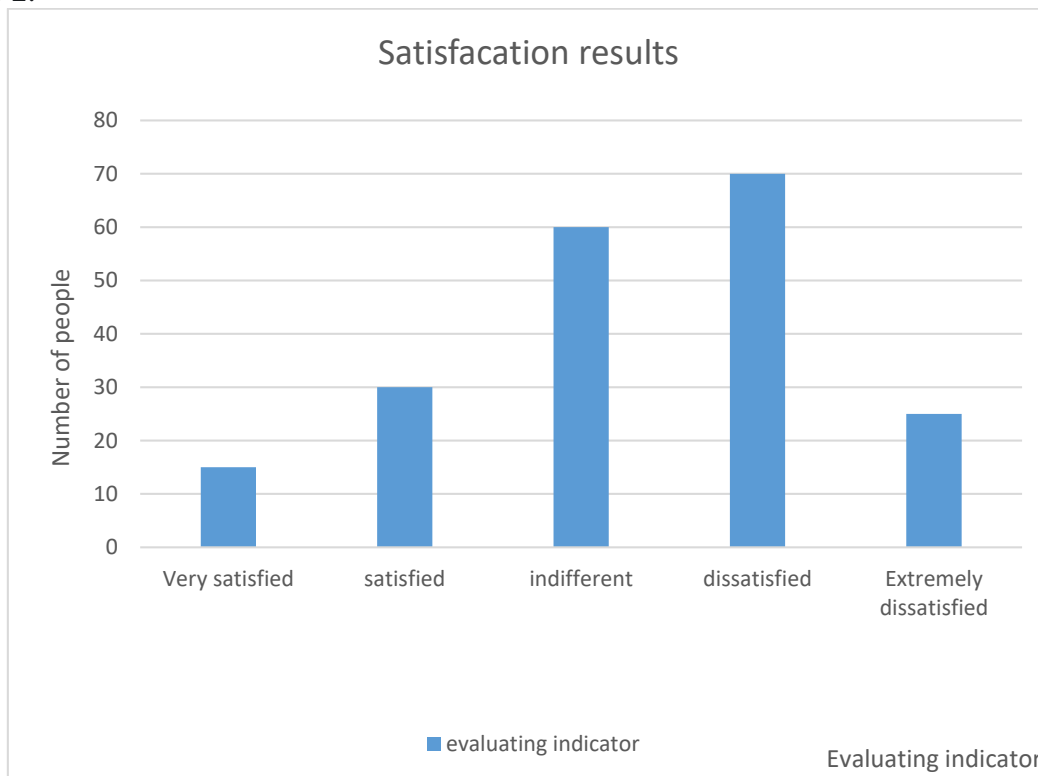


Figure 2: Satisfaction results

As shown in Figure 2, among the 200 students selected, only 15 are very satisfied with the school's management, accounting for only 7.5%; while there are 70 people who are dissatisfied with the school management work, and 25 people who are very dissatisfied. The two add up to 95 people, accounting for 47.5% of the total number of people. Nearly half of the students are dissatisfied with the current school management work. A survey was conducted on the students who were dissatisfied and very dissatisfied with the school management work, and it was analyzed that such a situation was mainly due to the following reasons. The specific results are shown in Table 1.

Table 1: Reasons for students' dissatisfaction with university management

Reason	Number of people	%
The school management is not standardized and rigid	40	42.11%
The school management system is unrealistic and idealistic	25	26.31%
The developmental concept of school management emotion is too backward	30	31.58%

In order to solve the above reasons, based on the background of innovation and entrepreneurship

training talents, the HMM algorithm was used to integrate school system management and emotional management. After a period of fusion experiments, the 200 students were re-graded for school management. The main parameters were the three reasons in Table 1, and the three reasons were numbered 1, 2, and 3. The evaluation standard is the improvement of the three reasons. The improvement is scored and the average is taken. The scoring standard is 1-5 points. The higher the score, the better the improvement. After the fusion is set as the post-experiment, and before the fusion is set as the pre-experiment, and the scores of the two are shown in Figure 3.

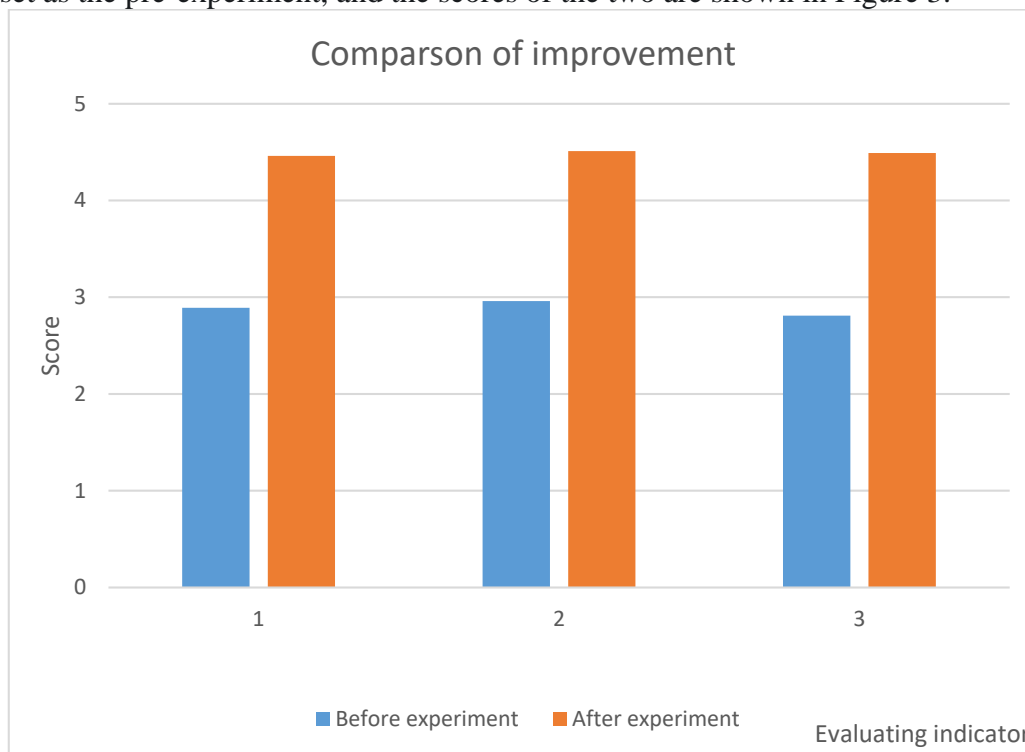


Figure 3: Scoring comparison of improvement of problems in university management

As shown in Figure 3, based on the background of innovative and entrepreneurial talent training, after the integration of student system management and emotional management, the improvement of various factors affecting the management of university has improved, and the score is also much higher than before the integration experiment. Before the experiment, the improvement score was less than 3 points, and the improvement score after the experiment was more than 4.4 points. Among them, No. 2 has the best improvement in the influencing factors of management work after the experiment, with a score of 4.51 points. The lowest is No. 1, with a score of 4.46 for improvement; there is no integration of institutional management and emotional management. No. 2 had the best improvement on the influencing factors of management work before the experiment, and the improvement score was 2.96 points, which was 1.55 points lower than that after the experiment. The lowest number was No. 1, and the improvement score was 2.81 points, which was 1.57 points lower than that after the experiment. The biggest difference between before and after the experiment is number 3. After the experiment, it is 1.68 points more than before the experiment. The smallest difference is the number 2, and the difference is 1.55 points.

Institutional management is management that pays attention to the rules, while emotional management focuses on people's feelings. According to the background of innovative and entrepreneurial talent training, the integration of various advantages of institutional management and emotional management allows the two to be integrated and play a complementary effect after their integration. In the student management work in university, in addition to the content



formulated by the system management, as a college administrator, the solution of many problems needs to be applied to emotional communication. Therefore, after the school management is formulated, it is necessary to integrate emotional management as much as possible, so as to obtain the best management effect and coordination of management work in the management of students, and improve the efficiency and flexibility of management work.

It verifies whether the integration of institutional management and emotional management can help schools of management work, and proves that in the context of talent training based on innovation and entrepreneurship, university use HMM algorithm to integrate institutional management and emotional management in college student management. Comparing the two before they were not used, a comparative experiment was conducted between the two. After the fusion was performed, and before the fusion was not performed, the parameters of the experiment mainly include student grades, personnel department and classroom teaching, which are three university management work parameters. They are numbered into A, B, and C, and the specific results are shown in Figure 4.

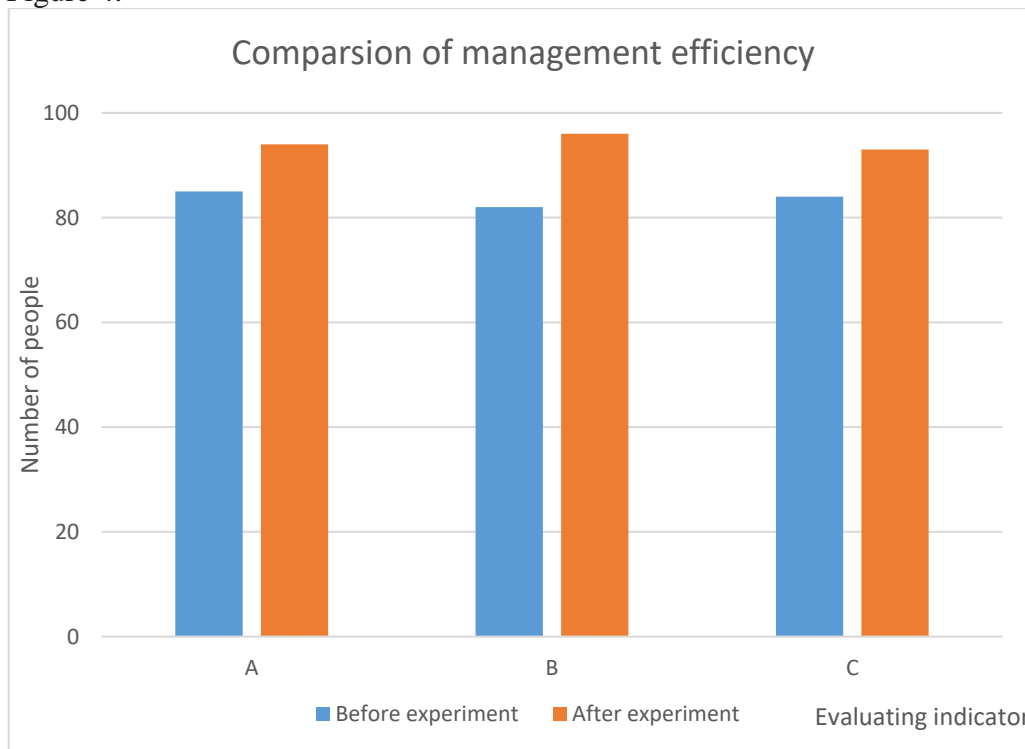


Figure 4: Comparison results of the efficiency of university management

By observing Figure 4, it can be found that based on the background of innovative and entrepreneurial talent training, the efficiency of college management after the integration of student system management and emotional management is much higher than before the experiment, without integration. Among them, the management efficiency of B personnel department, which has the highest management efficiency after the experiment, is 96%, and the lowest is C classroom teaching management efficiency, which is only 93%. In general, the average management efficiency of university after the experiment is 94.33%; system management and emotional management are not integrated. The highest management efficiency before the experiment is the management efficiency of student A, which is 84%, and is 10% lower than that after the integration. The lowest is B, which is only 82%, and is 14% lower than that after the integration. In general, the average management efficiency of university before the experiment is 83.67%. The difference between before and after the experiment is B, the difference is 14%, the difference is C, the difference is 9%,



and the average management efficiency difference is 10.66%.

System and emotion are two crucial factors in the management students, improving the efficiency of college student management. Single system management, most of which is system-centered, cannot get students' psychological approval; however, if there is no institutional constraints on pure emotional management, there would be no basis for solving problems when dealing with problems, which would lead to the weakening of managers' credibility. Therefore, in the context of this study, the system management and emotional management are closely combined in the management of college students, so that the management of the university can be more reasonable.

Based on the background of innovative and entrepreneurial talents training, the integration research on system management and emotional management in school management is conducive to the cultivation of innovative talents in university, improves students' innovative awareness, and stimulates their innovative ability and strength. The number of entrepreneurial projects, the number of successful entrepreneurial projects and whether they belong to innovative talents was investigated for 200 selected college students. The two management systems were compared after integration and before integration, and the comparison results are shown in Figure 5.

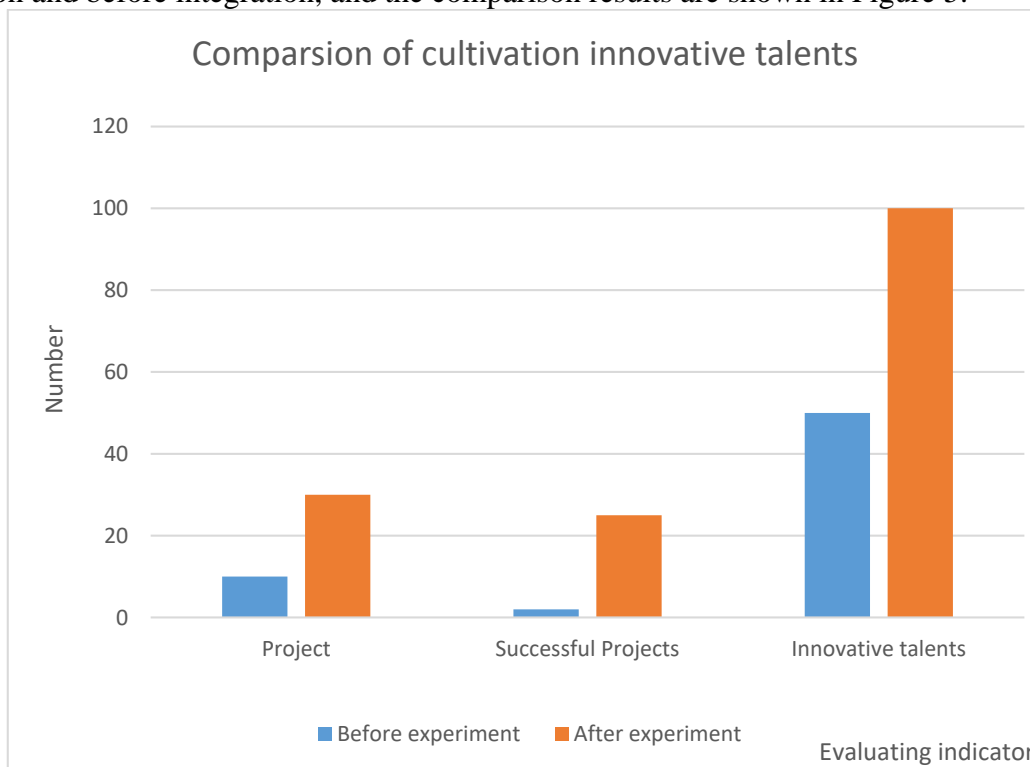


Figure 5: Comparison of innovative talent training before and after the experiment

Observing Figure 5, it can be found that based on the background of innovative and entrepreneurial talent training, after the integration of student system management and emotional management, the cultivation of innovative talents and the stimulation of students' innovative consciousness in university have been significantly improved. Among the 200 students selected, 30 innovative and entrepreneurial projects were designed, 25 of which were successful, with a success rate of 83.33%; 100 were innovative talents, accounting for 50% of the selected number. Before the integration of student system management and emotional management, among the 200 students selected, 10 innovative and entrepreneurial projects were designed, which is 20 less than after the integration experiment. There are only 2 successful projects, which is 23 less than after the fusion

experiment. The success rate is only 20%, which is 63.33% lower than that after the experiment; there are 50 innovative talents. It is 50 less than after the fusion experiment, accounting for 25% of the number of people extracted, which is 25% lower than that after the experiment.

By analyzing the data in Figure 5, it can be clearly found that in the context of the culture of innovative talents, the integration of institutional management and emotional management can promote the cultivation of innovative talents in university, improve students' innovative awareness, and stimulate potential. In the daily management work of the students, the students are appropriately encouraged emotionally, the students are encouraged to think freely, and the entrepreneurial projects that the students come up with are given institutional support, so as to support and cultivate innovative talents from all aspects, increase students' self-confidence, and improve their psychological satisfaction.

#### 4. Conclusions

Only the integration of institutional management and emotional management, and the combination of rigidity and softness, can the student management of university be truly recognized by students, better help schools cultivate talents, and deliver outstanding innovative talents to the society. Under the background of faster development, and innovative and entrepreneurial talents training, the continuous combination and optimization of institutional management and emotional management in college student management has brought a basis for the management of relevant colleges and universities, and its feasibility analysis and rationality have also been guaranteed, which has promoted the sustainable development of student management in university, avoided some bad problems, and promoted the professionalization of student management. In the context of cultivating innovative and entrepreneurial talents, teachers would also devote sufficient emotion to better educate students, cultivate innovative talents, stimulate students' innovative potential, and make rules and regulations more applicable and personalized.

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