



# Optimization of Talent Training Management System in Huizhou Engineering Vocational College

LiNa Yan<sup>(✉)</sup>, BaoHua Zhong, and ZhenYu Xu

Huizhou Vocational College of Engineering, Huizhou 516023, Guangdong, China  
hitusa@126.com

**Abstract.** Based on the object-oriented method, the training management information system of higher vocational colleges is studied and analyzed. This paper puts forward the main problems existing at present. Firstly, the original business process is analyzed, and the optimized business process is given. The actual needs of the training management system are divided into training trainees basic information management module, training enterprise information management module, trainee training arrangement management module, trainee training process management module, trainee training safety management module, evaluation management module and system management module. The overall function and seven sub-functions of the system are analyzed, and the existing problems are pointed out. Finally, according to the existing problems, the original business process is optimized, and the optimized business process is given.

**Keywords:** Students produce training · Management system

## 1 Introduction

### 1.1 Background

Vocational education has always attached great importance to improving students' training skills. As an important part of the teaching tasks of vocational colleges, at least 60% of the training time must be arranged for each professional course. The academic affairs department must organize a week-long comprehensive practice every semester. Training; from the fifth semester, the internship and employment department organizes students to do dual internships, and the sixth semester organizes students to take on-the-job internships. It can be seen that organizing students' training is a demanding, difficult, and tedious job. In order to facilitate college management, Huizhou Vocational College of Engineering has developed a set of practical training management system. The system includes the training student basic information management submodule, the training enterprise information management submodule, the student training arrangement management submodule, the student training process management submodule, the student training safety management submodule, and the student training evaluation management

submodule. Study how to combine the technology of information engineering to establish an information system specifically for student training management, study how to effectively arrange the work of training, study how to improve the business level of training process management, and study how to effectively improve the efficiency of training evaluation, Studying how to effectively carry out training and safety management is a problem currently faced by every vocational college [1].

At present, Huizhou Vocational College of Engineering has opened its own portal website and deployed some teaching-related information management systems, but these systems focus on course examinations, student status, student behavior management, etc., and basically do not involve student training management; However, for a vocational college, the training of students' practical skills is the focus of the school's attention; in professional courses involving student training, teachers and students also strongly urge the development of student training management information systems to make students practical Training management is informatized and efficient; therefore, in order to improve the science and standardization of student training management in our college, Huizhou Vocational College of Engineering needs a set of information system specifically for student training management [2].

## 1.2 Current Status of Research and Application

The degree of informatization in most domestic enterprises in the production process is still in its infancy. In order to improve the competitiveness of students' practical training, many enterprises have conducted extensive and in-depth research on the informatization of production management. For example, the School of Information, Dalian University of Technology, based on the status quo of informatization development, combined with in-depth analysis of student training, proposed an information integration system structure for student training, and carried out experimental applications in local student training; Huazhong In order to solve the dynamic management of student training, the University of Science and Technology has put forward a corresponding dynamic alliance management model after years of research. At present, this technology is in the stage of application and improvement; Shenzhen Weibosi company has developed a management system for student training, this system With the functions of cost management, schedule management and capacity management, it basically covers all aspects of production management [3].

The informatization of foreign student training started earlier, and the degree of informatization is also very high. The university has invested a lot of manpower and material resources in student training and production management technology to conduct extensive research, and has also achieved good results. For example, offer company in the United States has developed a set of student training management system. This system realizes the intelligentization of production management by collecting data from the existing production process and integrating student training experience. This system mainly includes two parts: planning and production monitoring. Planning is mainly responsible for making detailed production plans. Production monitoring is to monitor

the execution of the production plan and provide feedback to users. Researchers at the University of Birmingham in the United Kingdom use the principles of the knowledge base management system. A set of student training system is designed to provide the school training with production technology, production experience and help in handling problems [4].

The current student training system is difficult to fully meet the actual situation of our school, and it is not a good way to cut into the management of our school's training. Mainly manifested in the following aspects: First, the business cannot be well connected. Each school's student training has its own characteristics, the management departments are different, and the forms and requirements of the training are very different. Second, among similar software, some are more concerned about daily registration, daily attendance registration, focus on data collection, and lack the management function of indicators. The third is that each school has a difference in the division of roles of personnel for training. Some schools have departments dedicated to training, and some schools are still in charge of the educational administration department. The personnel involved and the approval process are also different. Currently, there is no system software that meets our school's student training management business. Fourth, some software mainly reflects the function of on-the-job internship, but does not reflect the function of teaching, and does not reflect the function of tutors participating in evaluation and attendance management in the process of enterprise internship. Fifth, the index system does not have a unified standard for the evaluation or evaluation function of similar software; each school has its own evaluation index. Sixth, similar software lacks the function of safety management. Internship training companies are generally far away from the school. The management process of the company for practical training cannot meet the needs of our school's safety management [5].

## 2 Business Analysis

### 2.1 Business Description

Huizhou Vocational College of Engineering's student training management work mainly involves the basic information management sub-module of training students, the training enterprise information management sub-module, the student training arrangement management sub-module, the student training process management sub-module, and the student training Security management sub-module, student training evaluation management sub-module and other services; the main personnel involved in student training management business are composed of students, instructors, corporate tutors, employment office administrators and school leaders; the main business includes collecting training students Information, selection of training companies, development of training plans, determination of instructors, determination of training classes, collection of training information, collection of attendance information, training safety management and student training evaluation [6].

- (1) The students who choose to participate in the training are generally based on the class. At this time, the student must submit an application for training, provide basic personal information, including ID card information and parent information,

and the employment office administrator must purchase corresponding insurance for the student.

- (2) To review the qualifications of the enterprises for training, the Employment Office shall organize personnel to conduct on-site inspections and analysis, and sign long-term cooperation agreements with the enterprises. At the same time, it is necessary to carefully analyze whether the positions provided by the company meet the requirements of student training.
- (3) The school shall formulate an arrangement plan for student training, including the selection of enterprises, the selection of instructors, and the selection of classes.
- (4) In the process of student training, the instructor should go to the site to conduct inspections and participate in the guidance of the training. Students should record the completion of each training task, and the company instructor should provide students with attendance data for participating in the training..
- (5) Leading teachers should do a good job in safety inspections and report safety inspection logs to the school every day.
- (6) The instructor of the enterprise should evaluate the performance of each student's training, and the leading teacher should collect and summarize the evaluation data of each student's training. After returning to the school, the employment office administrator should organize the staff to select the outstanding performance Students are commended [7].

## 2.2 Business Needs

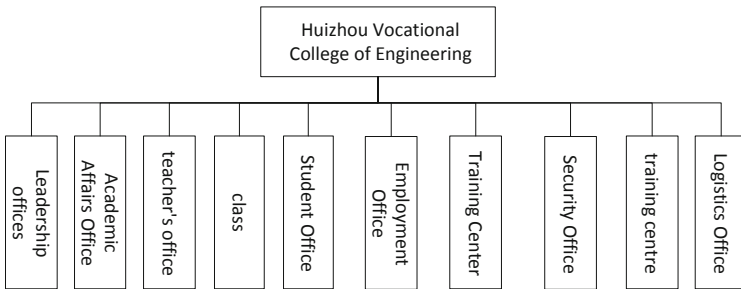
In order to provide the level of practical training management and improve the processing efficiency of related businesses; the use of computer systems and software engineering technology to establish a practical training management information system for Huizhou Vocational College of Engineering is of great significance. System business requirements include [8]:

- (1) Students can maintain their own information online and apply for online training. The employment office administrator can maintain the relevant information of the training students through the computer.
- (2) Companies can maintain corporate information online, employment office administrators can review the company's qualifications online, and school leaders can review corporate information online. Enterprise qualification materials can be well archived.
- (3) The employment office administrator can implement online training tasks distribution, set up training units through the computer system, set up classes for work-combined tasks, and set up instructors; and can submit data to school leaders for approval; School leaders can use the computer system to review and approve the training arrangements, approve those who meet the conditions, and give approval opinions for those who do not meet the conditions, so that the Employment Office can continue to improve the plan.

- (4) The employment office management can use the computer system to set up the function of training process management online; school leaders can set up the training task registration of the approval training process management online. After the approval is passed, the employment office management can release it. If the approval fails, continue to improve the relevant data; instructors can use the computer system to select the templates they need to fill in online to fill in the information for the team [9].
- (5) Employment office administrators can formulate training evaluation indicators online; school leaders can use the computer system to review and approve evaluation tasks. If the conditions are met, the implementation will be approved; if the conditions are not met, comments will be given online; the employment office management can be based on actual conditions Publish evaluation tasks online; training units can process student training evaluations based on their specific performance in student training.
- (6) The employment office administrator can formulate indicators and parameters of safety management online according to the actual situation; school leaders can approve the setting of indicators and parameters, if the conditions are met, the implementation will be approved, and if the conditions are not met, the comments will be given online; the instructor will be based on the students The actual situation of training safety management is processed for safety log information.
- (7) The system administrator can use the computer system to maintain school staff information, corporate mentor information, post information, department information, authority information, etc., and effectively manage users and assign authority.

**2.3 Analysis of Organizational Functions**

As shown in Fig. 1, the leadership office, the educational affairs department, the training center, the security department, the training center, the general affairs and property management department, the teacher’s office, each class, the student department, and the employment department are composed.



**Fig. 1.** Organizational structure of Huizhou vocational college of engineering

The Employment Office is the main responsibility department for student training in our school. It is responsible for the basic information management of training students, the management of corporate information for training, the management of student

training arrangements, the management of student training process, the management of student training safety, and the management of students. Training evaluation management, etc.; the specific division of labor is as follows: the leadership office is responsible for the policy formulation of the entire Huizhou Engineering Vocational College student training and the approval of student training related businesses; the Office of Academic Affairs shall provide information based on the actual situation of the training classes involved in our school. The training time is recommended, according to the arrangement of the training of the employment office, the corresponding course is allocated; the teacher office should select excellent teachers as instructors to participate in the whole process of student training; in each class, it should be arranged according to the teaching progress, According to the actual situation of the company, provide a list of students participating in student training. The students involved should participate in the training of student training; the student office should cooperate with the employment office to formulate student training-related management plans; the employment office should provide basic training for students. To process information, it is necessary to process the basic information involved in the training company, to arrange and organize the personnel of the company to cooperate with the instructor to participate in the management of the student training, and to arrange and organize the company's personnel to manage and organize the process of student training. Processing of relevant materials; the training center should be mainly responsible for the examination room and support work of the training venue; the security department should cooperate with the employment office to formulate a safety management plan during the student training process; the training center should cooperate according to the actual needs of student training management. The Employment Office and the enterprises involved carry out the training of student training; the Logistics Office shall be responsible for arranging the vehicles for the students, instructors and other personnel participating in the training [10].

#### **2.4 Analysis of Business Personnel**

- (1) Students: In the original business process analysis, students need to provide personal information paper materials, provide training application paper materials, students fill in paper training materials, and provide paper generation training materials for guidance teacher. Need to participate in pre-job training, need to participate in training, and need to understand the evaluation information of the training.
- (2) Instructor: In the original business process analysis, the instructor needs to fill in a large number of training guidance information materials, students need to fill in the attendance status of students, need to summarize the evaluation data of students' training, and need to fill in the paper safety log data. Understand the distribution information of the training.
- (3) Employment office administrator: In the original business process analysis, the employment office administrator needs to review the personal information of students and the training application materials, and the employment office administrator needs to fill in the paper training distribution materials, which involve instructors

and classes, Business and other information. A large number of processes and registration materials need to be printed and distributed. Need to collect daily management materials submitted by instructors, need to collect student training materials, need to collect evaluation materials, need to collect safety log materials, etc.

- (4) School leaders: In the original business process analysis, school leaders need to review a large number of paper materials, and they cannot understand the information of the training management process in time, and are in a waiting state. The approval efficiency is relatively low.
- (5) Corporate mentors: In the original business process, corporate mentors should provide information such as corporate information and job information, attendance information for student training, and evaluation information during each student's training process. Use a lot of paper materials, the efficiency is relatively low, and easy to make mistakes.

### 3 Process Optimization

#### 3.1 Optimization of Student Basic Information Maintenance Business Process

Compared with the original basic information management process of training students, the business process of information approval has been optimized, and the business process of querying the situation of training students has been added; relevant students involved in training can be allowed to maintain their personal information online; The administrator obtains the student information related to the training through the system, and uses the functions provided by the computer system for information approval work; the employment office administrators, students, and enterprises can query the details of the training students through the functions provided by the computer [11] (Fig. 2).

After business optimization, students do not need to fill in paper materials, and can fill in basic personal information and apply for practical training online through the computer system. The basic information of the students is kept in the computer system and can be reused to realize rapid updates; the administrator of the Employment Office can review the basic information and practical training applications of the students online, and can give the review opinions in time [12] (Fig. 3).

#### 3.2 Optimization of the Business Process for Querying the Situation of the Training Students

After the business is optimized, authorized users can retrieve the specific information of the students participating in the student training at any time. There is no need to call for consultation and check the paper-based registration materials, which is easy to operate.

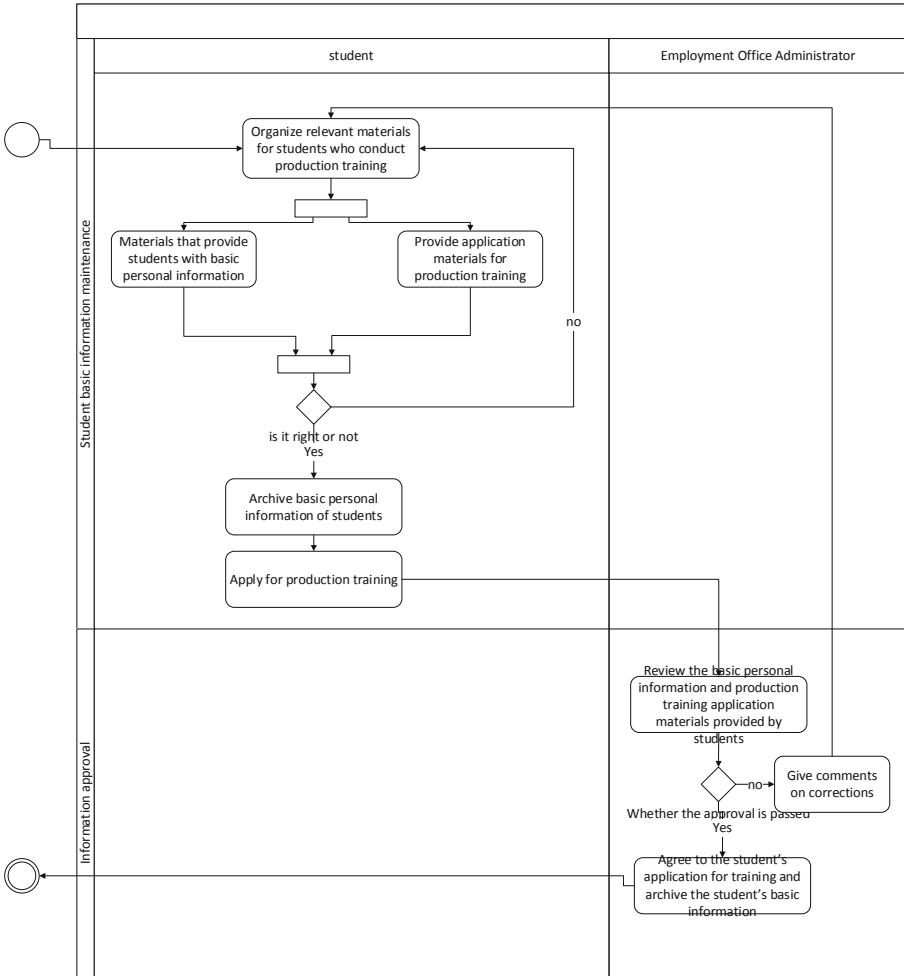
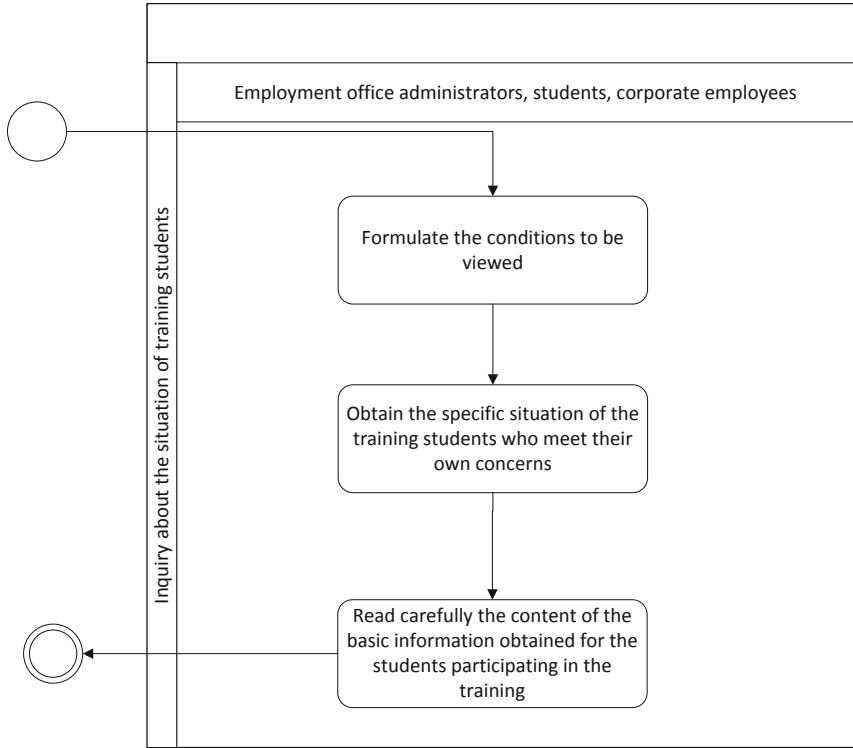


Fig. 2. Flow chart of optimization of student's basic information maintenance business

### 3.3 Optimize the Business Process of Training Enterprise Information Management

Compared with the original training enterprise information management process, the business process of training enterprise information approval has been optimized, and the business process of training enterprise information review has been added; relevant companies involved in training can be allowed to maintain their own corporate information online; Let the employment office administrator obtain the enterprise information related to the training through the system, and use the functions provided by the computer system to conduct information approval work; school leaders can obtain the employment office management through the system to manage the enterprise information involved



**Fig. 3.** Business optimization flowchart for querying the situation of training students

in the preliminary training, and use the computer system The function provided is to review the information related to the training company [13] (Fig. 4).

After business optimization, corporate mentors can maintain corporate information online, and can maintain post-related information online. There is no need to fill in paper materials. Many corporate information and post information can be reused; employment office administrators can obtain practical training involving students at any time The information of relevant companies is reviewed and processed; school leaders can give online review opinions specifically for companies involved in student training. There is no need to face paper materials or give written opinions [14].

**3.4 Student Training Arrangement Management Business Process Optimization**

Compared with the original student training arrangement management business process, the computer system has been used to optimize the business process related to training arrangement maintenance, increase the business process of training release, and increase the business process of querying training arrangements; employment office administrator The functions provided by the computer system can be used to quickly formulate the data of student training arrangements; school leaders can use the computer system to extract the data of student training arrangements, and conduct corresponding approval

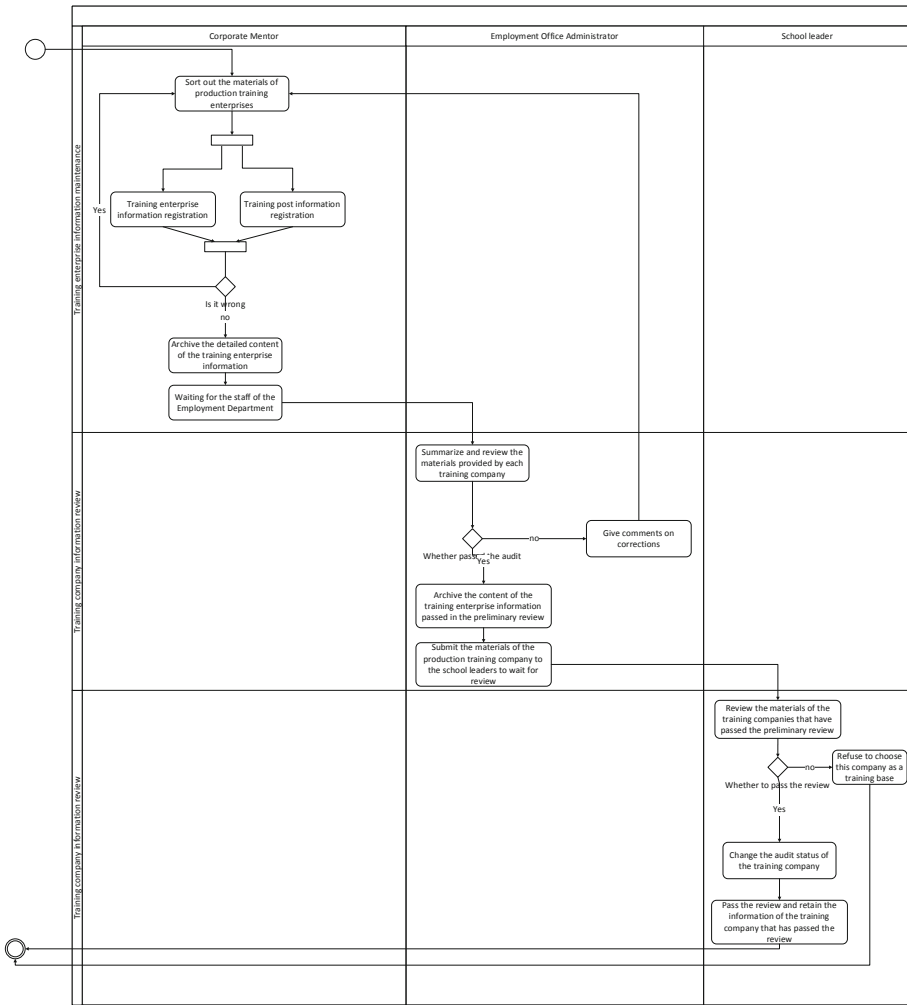


Fig. 4. Flow chart of optimization of training enterprise information management business

processing according to the actual situation; the employment office administrator can use the computer system to transfer the school The training arrangement data approved by the leaders is released, so that students, instructors and corporate tutors can quickly grasp the specific content of our school’s student training arrangements.

After business optimization, the employment office administrator can extract the training unit information, class information and instructor information stored in the system data through the computer system settings. Quickly set the training schedule information through the interface provided by the system. School leaders can extract the training arrangements waiting for review through the computer system online, and those who meet the conditions will be approved for review and approved for implementation. For those who do not meet the conditions, the approval comments will be given online,

so that the employment office administrator can continue to improve the plan. The data of the training arrangement is stored in the system database, and the operation is simple and convenient.

After the business is optimized, the employment office administrator can obtain the approved training arrangement information through the computer; and can publish the information about the student training according to the actual situation of the student training arrangement of our school.

After business optimization, instructors, students, and corporate tutors can obtain detailed information about training arrangements online at any time, which is simple and convenient to operate, and can set query conditions to obtain training arrangements that they care about.

Compared with the original student training process management business process, the business process of training task registration is optimized, and the business process of leading information registration is optimized; the business process of training information registration is optimized; the process of attendance management business is optimized; The business process of the student training situation; the training tasks, team information, attendance information, and training information registration involved in the student training process can be saved and related summary processing by using the functions provided by the computer system; authorized Users can use the functions provided by the computer system to obtain and consult detailed materials during student training at any time.

After business optimization, the employment office administrator can obtain training arrangement information related to production tasks online through the computer system, including obtaining training unit information, instructor information, class information, etc.; school leaders can conduct online training tasks registration templates Approval. For those who meet the conditions, they will be approved. For those who do not meet the requirements, the employment office administrators are required to complete; after the approval, students, instructors, employment office administrators, corporate mentors, school leaders and other users can query the actual situation online. Relevant information about training tasks; real-time tracking and filling in the training business related to them; students can fill in the process materials of their own training within the specified time, and can enter them through the network login system at any time; instructors can also You can fill in your own information and materials related to the team leader process online at any time within the specified time; corporate instructors can log in to the system online at any time to maintain the attendance of students during the training process; paper materials are not required, and they can be well grasped in time The data materials in the training process help users to fully understand the training information and collect relevant materials in time, which is simple and convenient.

After the business is optimized, the instructor can maintain the information in the training process of their students online. The operation is simple and convenient. You can choose the template for the training task registration, fill in the content related to yourself, and save the data in the system database. Accurate collection of data and future extraction and use.

After business optimization, students can maintain the training information during their training process online. The operation is simple and convenient. They can select

the template for training task registration, fill in the content related to them, and save the data in the system database. Accurate collection of data and future extraction and use.

### 3.5 Attendance Management Business Process Optimization

After business optimization, the corporate instructor can record the attendance status in the computer system according to the attendance status of the student training, and can obtain the registration template of each generated training task through the computer, and accurately record the attendance status of each student during the training.. The student's attendance status is stored in the system's database, which provides convenience for future extraction and use.

After business optimization, employment office administrators, corporate mentors, instructors, students, and school leaders can query relevant information about training tasks online. You can set relevant query conditions, perform queries under your permission, and get the data you care about. Can fully grasp the information on the management of the training process.

Compare the original business process of student training safety management; add the function of setting safety indicators specifically for student training safety management; increase the approval processing specifically for student training safety management related information; optimize the security log registration business The process; authorized users can use the functions provided by the computer system to adjust and set the safety indicators involved in student training according to the needs of student training safety management; they can use the functions provided by the computer system to perform the safety indicators involved Approval; the functions provided by the computing system can be used for effective archiving of security logs.

After business optimization, the employment office administrator can set security indicators online through the system, and adjust the indicator system according to actual requirements. The data of the safety index settings involved in the student training is stored in the computer system database; the school leaders conduct online auditing and processing of the indicators involving the safety management of the student training.

After business optimization, the instructor can compile the security log online, submit the security log at the specified time every day, and record the specific situation of the security management in the training in time, and all the data is stored in the system database. The operation is simple and convenient.

Compared with the original business process of training evaluation management, the business optimization of evaluation index management involved in student training has been added; the business process of evaluation information registration has been optimized; the business process of query and evaluation has been added; authorized users can use The function provided by the computer system adjusts and updates the indicators involved in the evaluation of student training; the computer system can be used to archive the information of the evaluation of student training; the function provided by the computer system can be used to evaluate the results of student training. Check it out.

After business optimization, the employment office administrator can set up the evaluation index involving student training through the system online, and adjust the index system according to the actual requirements of student training.

After business optimization, corporate instructors can evaluate the students' training activities based on the students' performance during the training period and the evaluation indicators prompted by the system. The evaluation information is stored in the system database. The system will automatically generate evaluation results based on the collected evaluation information.

After business optimization, employment office administrators, school leaders, instructors, and students can query the evaluation results of their concerns online. Authorized users can set query conditions to fully understand the performance of students in the training process. Because the data comes from the usual collection, the evaluation results produced in this way are relatively objective and have good reference value.

## 4 Conclusion

This article adopts an object-oriented method, consults and learns a large amount of literature and materials about the training management system; launched a survey of the business content involved in the student training management of vocational colleges, especially similar vocational colleges in Huizhou area And analysis; expounds the background of the research on the student training management system of vocational colleges, studies the original business processes of students, training units, leading teachers, and employment departments. At the same time, it analyzes the original business processes and proposes the existence The problem. In view of the existing problems, the original business process is optimized, and the optimized business process is given.

## References

1. Fangzhou, S.: Investigation and research on the current situation and influencing factors of basketball students' endurance quality training – taking Olympic College of Nanjing Institute of physical education as an example. *J. Jiangsu Second Normal Univ.* **33**(12), 39–41 (2017)
2. Hui, L.: Preliminary study on the selection of female javelin athletes in China's Olympic training camp. *Youth Sports* **06**, 43–44 (2016)
3. Binyu, Z.: Feasibility analysis and Countermeasures of introducing outward bound teaching into university public sports teaching – taking Olympic College of Nanjing Institute of physical education as an example. *Contemp. Sports Sci. Technol.* **5**(35), 34–35 (2015)
4. Youyang, S.: Research on design and construction technology of steel grid structure for training building of Nanjing Olympic training base. Southeast University (2016)
5. Aimin, C.: 2015 national high level reserve training camp for middle and long distance running and women's throwing Olympics was successfully closed in Rugao juvenile sports school. *Youth sports* **08**, 139–140 (2015)
6. Panjun, J.: Research on the management of track and field single Olympic high level reserve talent training base. Beijing Sport University (2015)
7. Meng, Z.: Research on the training situation of Olympic high level reserve talent base for National Women's shot put. Capital Institute of Physical Education (2015)
8. Xiaojie, S.: Research on the management and operation mechanism of the training camp for high level reserve talents of track and field. Beijing Sport University (2015)
9. Meng, Z., Jianchen, L.: Research on the training situation of national track and field single Olympic high level reserve talent base in Hebei Province. *Youth Sports* **11**, 62–64 (2014)

10. Chi, M., Jie, Y.: Scientific Exploration of Modern Basketball and Volleyball. Xinhua Press, Beijing 09.165 (2014)
11. The Fifth National Hockey Olympic reserve training camp and 2013 national youth hockey championship. Youth Sports (06), 19–20 (2013)
12. Youqun, L.: Research on training mode of high level reserve talents in national track and field Olympic training base of Wuhan Institute of Physical Education. Central China Normal University (2013)
13. Long, S.: Enlightenment and thinking of German sports (1). Sports (07), 154–156 (2013)
14. Rui, M., He, S., Chunhua, L.: Research on physical training of curling athletes—based on the analysis of physical training plan of Canadian Olympic curling team. J. Harbin Instit. Phys. Educ. **30**(04), 14–18 (2012)