Research on Informatization Management Strategy of Post-Practice of Higher Vocational Students under the Background of "Internet +"

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Abstract. Post-practice is an important part of the cultivation of high-quality technical and skilled talents in higher vocational colleges. The management level of post-practice plays an important role in cultivating students' good professional quality and improving the quality of talent training. In this paper, the information means and post-practice are organically integrated to construct the information management system of post-practice. Relying on the fully functional post-practice information management platform, we refine management responsibilities, standardize management processes, and adopt the whole process fine management mode in the three stages of "pre post-practice, during post-practice, and after post-practice" to improve the information management level of post-practice, so as to ensure the quality and efficiency of post-practice management.

Keywords: Post-practice; Information technology; Refined management; Information management system.

1. Introduction

Promoting the high-quality development of higher vocational education and vigorously cultivating high-quality technical and skilled talents is an inevitable requirement for adapting to China's "14th Five-Year Plan" and even the high-quality economic and social development in a longer period[1],[2]. Post-practice is an important part of the cultivation of high-quality technical and skilled talents in higher vocational colleges. It is an essential way for students to carry out professional learning and technical skills training. It is also an important way to exercise students' will quality, make students familiar with posts in advance and guide students to integrate into society[3]. However, in the actual operation process, there are still some problems in the management of post-practice. For example, the geographical dispersion of practice leads to poor liaison and communication, poor timeliness of information communication, difficult implementation of management and operation, unclear responsibility of enterprises for students' practice management, weak willingness to actively participate, low degree of cooperation, formality of instructors, inadequate guidance, inability to grasp the real situation of students, resulting in non-objective and incomplete performance evaluation[4],[5].

Post-practice activities are restricted and influenced by many factors such as students, enterprises, schools and teachers. Due to inadequate management, post-practice often fails to achieve the desired results. The traditional practice management method can no longer meet the requirements of post-practice management.

In the era of "Internet+", the development and application of modern information technology provides a realistic condition for higher vocational colleges to establish an information management platform for post-practice, and to solve the problems of information communication, practice supervision, teacher guidance and risk warning. The construction of post-practice information management system has always been the focus of information construction in vocational colleges.

2. Organic integration of information technology and post-practice management

Under the background of "Internet+", information technology and vocational education are deeply integrated, so that the information platform can be easily used to construct the information management system of post-practice and provide a new teaching environment for students' practice. With the help of a convenient and fully functional management system, it can effectively reduce the tediousness of "manual" and effectively improve management efficiency. However, in the process of integration of information technology and post-practice management, it is necessary to clarify the fundamental purpose of education informatization construction, which is to serve the development of students. We should avoid the "technology standard", and take the application as the fundamental goal of the post-practice information management system. In terms of function and system design, we should focus on the improvement of the quality of information management, effectively solve the problem of information communication among schools, enterprises, students and parents, so as to promote the improvement of the teaching system of practice and training in higher vocational colleges[6].

3. Information management strategy of post-practice in vocational colleges

3.1 Building a fully functional information management platform for post-practice

Using modern information technology and resources, fully considering the factors such as participants, technical conditions, post-practice process and functional requirements, a fully functional post-practice information management platform is constructed.

(1) Post-practice participants and functional requirements

The design of the platform must consider the needs and tasks of each participant. Generally speaking, the main participants of post-practice are higher vocational colleges, enterprises, students and parents. Relying on the information management platform, higher vocational colleges can publish post-practice tasks, remotely supervise the process of post-practice, manage students' safety, guide students' post-practice, evaluate post-practice results and

connect with enterprises. Enterprises publish job information and understand student information, academic performance and personal performance. Students can understand the school management regulations, clear post-practice tasks, find job information, search for the enterprise, seek the help of teachers, and submit post-practice materials. Parents can master the situation of students' practice and cooperate with schools and enterprises to do a good job in practice management[7]. The four participants work together and cooperate closely, so as to truly complete the task goal of post-practice and achieve the effect of practice.

(2) Functional module of post-practice information management platform

The information management platform of post-practice should realize seven functions, including student information management, enterprise management, information release, practice process management, safety monitoring, communication and evaluation analysis. The function of the post-practice information management platform is shown in Figure 1.
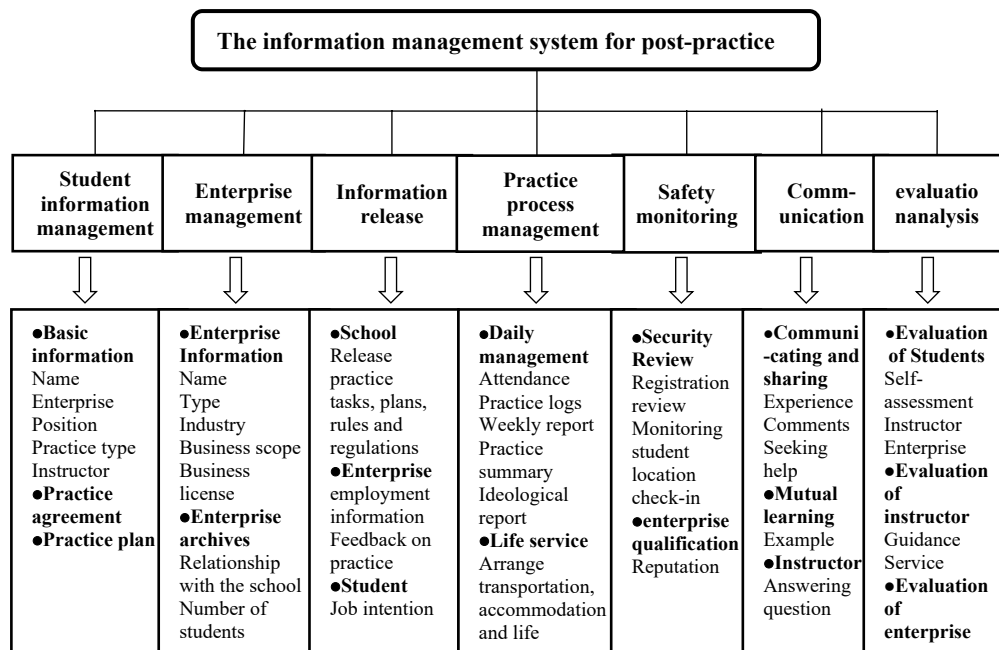
The information management system for post-practice

Student information management	Enterprise management	Information release	Practice process management	Safety monitoring	Comm-unication	evaluatio nanalysis
●**Basic information** Name Enterprise Position Practice type Instructor ●**Practice agreement** ●**Practice plan**	●**Enterprise Information** Name Type Industry Business scope Business license ●**Enterprise archives** Relationship with the school Number of students	●**School** Release practice tasks, plans, rules and regulations ●**Enterprise** employment information Feedback on practice ●**Student** Job intention	●**Daily management** Attendance Practice logs Weekly report Practice summary Ideological report ●**Life service** Arrange transportation, accommodation and life	●**Security Review** Registration review Monitoring student location check-in ●**enterprise qualification** Reputation	●**Communi -cating and sharing** Experience Comments Seeking help ●**Mutual learning** Example ●**Instructor** Answering question	●**Evaluation of Students** Self-assessment Instructor Enterprise ●**Evaluation of instructor** Guidance Service ●**Evaluation of enterprise**

Fig. 1. The function of information management platform for post-practice

① Student information management function can realize the management of students' basic information, post-practice plan and practice agreement. ② Enterprise management function can manage the basic information of enterprises and establish enterprise archives. ③ Through the information release function, the school can release the post-practice policy, practice plan, publish rules and regulations; enterprises can publish employment information and feedback on student practice; students can post their intention to apply for a job. ④ Through the process management function, it can carry out daily management, locate the check-in, upload and review the post-practice materials.⑤ Through the safety monitoring function, it is possible to

conduct information security audits, monitor whether students' check-in locations match the real practice locations, detect security risks early, and monitor enterprise qualifications, effectively enhancing practice security.⑥ Through the communication function, students can release comments, share experience and seek help at any time. Teachers can check messages, answer questions and provide help[8]. ⑦ Through the evaluation analysis function, teachers evaluate students' post-practice performance. Students can also evaluate teachers' practice guidance, service performance, and score enterprise evaluation. Through the information management platform, we can quickly collect massive post-practice information, carry out classified statistical analysis, and provide decision-making reference for subsequent post-practice arrangements.

3.2 Relying on the information management system, achieving the whole process management of multiple participations

Based on standardization as the premise, systematization as the guarantee, digitization as the standard, and informatization as the means, we can improve the degree of process management in the three stages of "pre post-practice, during post-practice, and after post-practice" to ensure the quality and efficiency of post-practice management work. The refined management process of post-practice is shown in Figure 2.
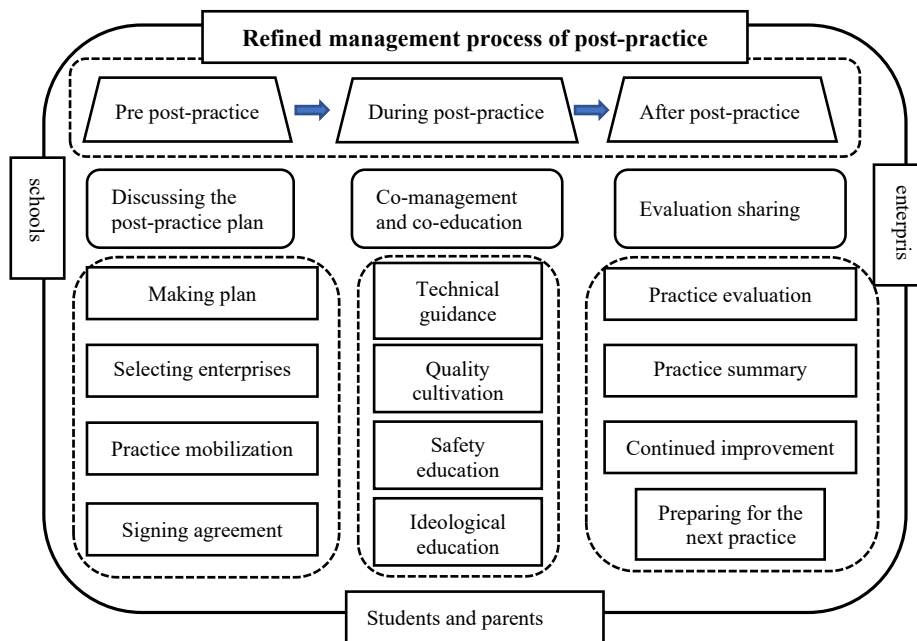

Fig. 2. The refined management process of post-practice

(1) "Pre post-practice" - careful preparation and overall arrangement

①Before starting the practice, we should set up a post-practice leading group, a supervision group and a working group, and then decompose the tasks and clarify the responsibilities.

②Then, we should refine the relevant system of practice management and highlight the top-level design[9]. According to the spirit of the new "Vocational Education Law" and "Student Practice Management Regulations" and other documents, professional teachers and enterprise experts work together to study and formulate post-practice implementation plans and student management related methods, and publish them on the management system.

③With the help of enterprise archives, the school screens post practice enterprises for students, and establishes a relatively stable relationship with enterprises, deepening school-enterprise cooperation, and integrating industry and education. The school arranges the post-practice school instructor, selects and hires the enterprise instructor. Schools and enterprises should clarify the practice content and guidance methods, carefully divide the work responsibilities, and make the management responsibilities specific, detailed and clear.

④The school instructor organizes a post-practice mobilization meeting, conducts practice education, safety education, and practice deployment, explains practice arrangements and requirements to students, makes students clear the importance of post-practice, and signs a safety responsibility letter and post-practice agreement on the management platform.

⑤The school needs to establish a post-practice ledger, and then the students upload the basic personal information, contact information, practice enterprises, practice positions, practice types, practice compensation and other practice information to the post-practice management platform, and complete the identification[10].

(2) "During post-practice"-fine management, careful guidance

According to the practice plan, the school organizes students to carry out on-site post-practice, and strengthens management in the process of practice.

①Enterprise-school-family integration, collaboration and common management

Post-practice students are dual identities in enterprises and accept the dual management of schools and enterprises. In the process of practice, the management mode of joint guidance of "three instructors" (school instructor, life instructor and enterprise instructor) and full participation of parents is adopted. The enterprise instructors provide professional guidance for students in different stages of learning and adaptation, proficiency, fatigue and slackness, and improvement and breakthrough. They pay attention to the cultivation of professional quality, encourage innovation and innovation, and do a good job in safety education. The school instructors maintain close contact and communication with students, regularly check the completion of students' work tasks, guide students to write practice logs and practice reports, and regularly understand students' learning and living conditions. Life instructor should grasp the students' ideological situation at any time, carry out ideological education for students, and solve the problems of students in time. Parents have the right to know the students' practice situation and assist schools and enterprises to do a good job in practice management. Schools, enterprises and parents should establish communication channels to communicate with each other at any time, fully grasp the situation of students' practice, and ensure the safe and stable development of post-practice work.

②Refined process management, full tracking, careful guidance

The school and enterprise should do a good job in daily management, arrange transportation, accommodation and life. The school should cooperate with enterprises to do a good job in pre-

job training, check students' attendance, urge students to upload practice log, weekly report, ideological report and practice summary in time, and implement efficient management and tracking of the whole process of post-practice.The school should refine the process data in the student practice and realize the fine management of the whole process, which will provide effective data support for the objective and accurate evaluation of the post-practice work, and effectively improve the efficiency and quality of the post-practice.

(3) "After post-practice"-fine evaluation, comprehensive science

The establishment of the post-practice evaluation system first needs to clarify the main body of responsibility for evaluation and assessment. Considering various factors such as enterprises, schools and students, we have formulated detailed evaluation criteria for post-practice. At the same time, the evaluation factors such as the evaluation of instructors inside and outside the school, the self-evaluation of students, the daily assessment and evaluation of the practice process and the effect of practice results are integrated into the assessment system to build a quantifiable, operable, development-oriented, objective and comprehensive student evaluation system[11]. In terms of specific implementation, students evaluate their performance during the practice period. Enterprise instructors evaluate students' practice situation, work ability, compliance with laws and regulations, and safe production. School instructors make overall evaluations on attendance, practice logs, and practice reports. And then the practice results and reports are automatically generated. Finally, we should pay attention to the use of evaluation results to promote reform. Through the evaluation and assessment, students realize the shortcomings, the school will further improve the curriculum teaching system, and the enterprise has obtained satisfactory talents.

4. Effectiveness of information reform

4.1 Highlighting the educational attributes of post-practice

With the help of information technology, through the post-practice management platform, students have established a close connection with teachers and schools. Through the study of practice safety education, ideological education, practice policy, professional ethics and professional quality, the educational attribute of practice is more prominent.

4.2 Improving the quality of post-practice

Through information technology, the supervision of the whole process of practice is ensured. And through the diversified evaluation mechanism, relying on the information management platform, students' practice results are automatically generated to ensure the scientificity, standardization, fairness and efficiency of performance evaluation. The information management platform is used to provide data sources for post-practice management, such as attendance, practice logs, weekly report, etc., so that the quality of students' post-practice can be supervised and evaluated according to the evidence. The operation of each practice link has left traces on the platform, which ensures the refinement and standardization of practice management and improves the quality of practice.

In the post-practice of students majoring in power plant and power system in our school in 2023, many students have won honorary titles such as excellent students and excellent

employees. After the post-practice, many students have successfully passed the enterprise assessment and directly employed. Compared with 2022, the professional counterpart rate and the employment rate after post-practice have been greatly improved, which effectively improves the effectiveness of students' practice and the quality of personnel training. The practice of power plant and power system in our school in 2022 and 2023 is shown in Table 1.

Table 1. The practice of power plant and power system in our school in 2022 and 2023.

Year	Number of post-practice students	Number of professional counterparts	professional counterpart rate	Number of direct employment after post-practice	employment rate after post-practice
2022	329	263	79.9%	268	81.5%
2023	304	278	91.5%	274	90.1%

4.3 Improving the efficiency of post-practice

With the help of information technology, through some functions of the information management system, such as check-in, uploading and reviewing the practice log and weekly report , automatic generatiing score , etc., it avoids the disadvantages of repetitive work, low supervision, lack of information and data, non-standard information filling, and poor information between teachers and students in traditional post-practice management. This reduces the time and cost investment of schools, enterprises and teachers in the management of students' practice, thus improving the efficiency of post-practice management.

5. Conclusions

In the era of "Internet +", modern information technology has brought a series of technological changes. Only by daring to innovate and making full use of the convenience of information technology can we adapt to the progress of the times and better carry out post-practice management and teaching work. With the full application of modern information technology and the help of network carriers, our school has constructed a three-stage multi-participation post-practice fine management path of "pre post-practice, during post-practice, and after post-practice". We give full play to the advantages of both schools and enterprises, both sides work together, co-management and co-education. By refining the management process, it effectively changes the situation that students' practice monitoring and management are not in place, and improves the management efficiency, reduces the management cost, and improves the effectiveness of students' practice and the quality of personnel training. The use of modern information technology and methods to build various service and management platforms is an inevitable requirement for vocational colleges to strengthen student post-practice work in the information age, and it will have broad application prospects.

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