

## Application of post simulation in Equipment Maintenance teaching

Xinming Gu, Jihua Zhao, Zhendong Tang, Tao Wang, Bin Shen  
Wuhan Mechanical Technology College  
Wuhan China 430075  
Email: Whgxm001@126.com

**Abstract**—In order to study the effect of post simulation in Equipment Maintenance teaching, in recent teaching, we made some try. Actual situations of teaching, analog troops and equipment maintenance, under the guidance of a teacher, students group and allow them to deal with failure, for failure analysis equipment maintenance technician role, troubleshooting. Practice has proved that the post simulation teaching methods helping to train the students' interest in learning and the spirit of innovation, and improve the ability of students to solve practical problems, and to lay the foundation for future work.

**Keywords:** component:post simulation; equipment maintenance; teaching

Equipment maintenance train qualified personnel is the central task of working in the educational institutions, and personnel training, the key is to do a good job teaching. Currently, most of the equipment maintenance classroom teaching still follow the traditional teacher-centered lecture-style teaching methods, students in a passive learning state, the lack of real hands-on practice, is not conducive to the students deal with failure analysis failure exclude failure abilities. My school "to adhere to the needs traction-oriented equipment school, close to the job of educating people service forces of winning" the educational philosophy of our teaching and research in the introduction of the "job simulation equipment maintenance course teaching methods, a better solution to the current equipment Maintenance course classroom teaching monotonous, students learn boring, the result is not satisfactory teaching problems..

### I. EQUIPMENT MAINTENANCE COURSE FEATURES THE INTRODUCTION OF THE "JOB SIMULATION TEACHING

Equipment maintenance professional courses some of the participants, who held positions required courses. Through these courses, so that students are familiar with the technical inspection of equipment, learn to common equipment failure analysis and maintenance theory, basic skills mastered Equipment Maintenance for Equipment Maintenance work has laid a solid foundation. Equipment maintenance course is a theoretical and practical strong courses focus on training trainees innovative thinking and integrated use of equipment structure knowledge to solve practical problems capability is the key to such teaching, if teaching and preaching simple theory simply list some of the cause of the failure analysis, bound to the real cause of the originally vivid image knowledge becomes hollow and boring, despite the faculty Plough, the participants understand is still fragmented,

difficult to understand and master the failure to reach the the purpose of the formation of the maintenance capability, so the traditional "spoon-fed" teaching method for highly applied equipment Maintenance teaching obviously difficult to adapt. "Job simulation teaching its essence is commonly used in today's international education sector a practical teaching methods - behavior-oriented teaching methods, it is a departure from the teaching members of" learning to learn "the proposition that, from a focus on" Sharia Go pay attention to the study of law, stressed that the participants in the center of the learning process, the teacher is the organizer and coordinator of the learning process, teachers follow the consultation, planning, decision-making, implementation, checking to assess the "complete" action "process sequence to interact with students in teaching students through "independen. access to information, independent plans, independent implementation plan, independent evaluation of the plan" so that students in the "hands-on" practice to master vocational skills, acquisition of professional knowledge, experience and knowledge to build their own system. Behavior-oriented teaching methods emphasize teaching activities is an interaction between teachers and students, emphasizing the subjectivity of students learning, participation, cooperation, reflects the value of the individual student.

The post simulation teaching methods used in this paper is to allow students to imitate troops repair service technician role in the maintenance of classroom teaching, as a link to the troops and equipment common fault cases, allow the students to deal with failure, and fault analysis and troubleshootingexperience as a maintenance technician in the maintenance work meaning and psychological qualities, dealing with practical problems, organizational maintenance capability to provide training opportunities for students to improve. "Job simulation teaching methods to promote students the ability to take full advantage of their knowledge, and constantly explore, enhance the confidence of dealing with problems; enhance and friendly neighbors, the coordination and communication, inspire imagination and creativity to improve determine the problem, solve the problem .

### II. THE "JOB SIMULATION PEDAGOGY SPECIFIC METHODS AND ORGANIZATIONAL

Use of job simulation pedagogy organization in Equipment Maintenance teaching, teaching general steps shown below.

Students knowledge reserve The failure case scenario set  
Post simulation Discussion Summary

Step 1: Prepare the stage. Instructor can arrange the syllabus and teaching process, and there are plans to arrange some job simulation teaching, requirement around teaching objectives, knowledge contact with the students, the design of the teaching situation, clear the trainees through the ability to achieve the level of post-simulation training and prepare and provide relevant information, equipment. First consider the positions the simulation teaching throughout the course of the insertion position, to prevent their out of touch with the before and after content before and after the course can not be coherent. The basic principles of the post analog design are based troops repair maintenance technician jobs, to cultivate the students job tenure ability oriented generally pay attention to the following points: First, practicality, course selection should be suited to the needs of teaching, at the same time must close troops and equipment repair actual; typical, typical equipment and troops common fault case, so as to point to an area, triggering trainees thinking; novelty, to stimulate student interest. For example, the maintenance of a certain type of firearm teaching can be arranged in the fault sections that did not turn, could not even allowed to play; maintenance of a certain type of artillery teaching can be arranged in a misfire the the direction machine action difficult, high and low machine the empty back excessive failure chapters.

Step 2: Scenario settings. Failure should be designed cases to determine after a scene, the scene should be close to the current use of weapons of troops to reality, troops and equipment repair actual. Such as a certain type of firearm fight does not ring failure, an infantry company of the organization the shooting, repair can be set as a technical support unit for maintenance technicians to conduct on-site security, and technicians involved in the protection is trainees.

Step 3: post simulation. This is the most fundamental and crucial aspects of post-simulation teaching. Scene is set, so that students from a maintenance technician perspective, classes or groups of units, own the collection and analysis of relevant information, prepare the tools, equipment, presided over the discussion and design of security programs, in cooperation with each other to form a complete set of technology security programs. At this stage, the instructor does not directly participate in the discussion of the participants, but to understand the readiness through observation, discussion, and give proper tips and guidance. Participants in the simulation process, the faculty always act as an organizer and a bystander's role, the main teaching students, teachers should fully mobilize the enthusiasm of the participants, setting a relaxed environment for the students, guide students to actively participate in and through certain incentives stimulate students' creative thinking.

Step 4: Summary discussion. A class or group to choose a representative of the statement this group's technology security programs and related analysis, team members can ask a supplementary, and other groups to put forward their own views or questioned, after the end of the simulation, the instructor should guide the students correctly summarize, and

students post simulation examination and evaluation. Faculty had to sum up the speech of students, according to students early preparation and program design and operation of, the mastery and application of knowledge, expression skills, teamwork and other aspects of a comprehensive comment, to point out the strengths and weaknesses of each team at, and each student's overall performance score.

### III. EVALUATION OF POST SIMULATION PEDAGOGY TEACHING

Traditional teaching methods focus on cognitive goals, learning emphasized students through sensation, perception, thinking, imagination, attention and memory. The post simulation teaching method not only focus on the cognitive goals, but also pay more attention to the behavior - operating goals, the main emphasis on training students to identify problems, analyze problems, and the actual ability to solve problems.

#### A. *students have a strong sense of participation, greatly mobilized the students learning initiative*

The students' learning attitude is the orientation of the learning process and the power source. Positive and right attitude to make students able to overcome difficulties in the learning process, the final completion of the learning task, on the contrary, the negative attitude often makes learning halfway. Traditional teaching, the student's role is to listen, in a passive position. Participate in job simulation process, the trainees is an active participant in, and a positive attitude towards learning greatly promote learning initiative. Participants in the interview process, a considerable number of students that very like the post simulation, post simulation not only understand the abstract theoretical knowledge, but also to positive thinking and problem-solving. That enthusiasm from the student's classroom can also be apparent

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

#### B. *post-simulation teaching there helping to train students determine the problem, analyze the problem, problem-solving abilities, will help to stimulate the students' creativity.*

In the traditional teaching methods, the teachers, the students' listening is an important way of teaching, and the entire teaching around the faculty and expand, give full play to limit potential students. The post simulation teaching stressed heuristic stressed students personally involved. In posts analog pedagogy, faculty guidance, students independently participate in teaching, the entire process of teaching around students expand students through its own independent analysis and judgment of the situation at the scene, the actual operation of the organization and implementation of teaching activities in favor of training trainees judgment, analysis, problem-solving skills, creativity can also be fully exploited. Students must be familiar with the background knowledge related to the teaching situation,

Careful analysis and reflection, the idea of the program of treatment failure; post simulation and discussion process, actively speak, speak out of their own thinking and judgment, this discussion posts simulation Summary link reflects particularly evident.

*C. post simulation teaching will help cultivate students' awareness of jobs and improve the capacity of students after graduation worked*

Because the post simulation teaching close the actual troop, scene setting from the troops, setting clear is to repair the firearms technician job. The participants in the learning process of the school to the troops and in the future to deal with the practical problems to solve practical problems is basically the same, so students will encounter similar

problems in the actual work would not panic to deal with it will be handy.

#### REFERENCES

- [1] Stephen P. Robbins. Organizational Behavior [M]. Beijing: China Renmin University Press, 1997.
- [2] Kang lei. Improved with practice pedagogy "Organizational Behavior" teaching [J]. Cultural and educational information, 2006, (2) :25-27.
- [3] Chen Liqin and other behavioral simulation Organizational Behavior Teaching of Chinese Geological Education 2009 (3) 141-143.
- [4] Lin li the task lead teaching model in professional [J] , knowledge-based economy 2010 (17) 156
- [5] Lili cheng Cases import synchronous teaching and practice teaching in higher vocational ophthalmology teaching Modern Traditional Chinese Medicine 2010 (11) 1427