

Application of “7S” Management Mode in Chemical Engineering Training

Yueyun Yang ^a, Xiaoyu Shi ^b, Xiaoguang Wang ^{c,*}

College of Chemistry and Chemical Engineering, Zhoukou Normal University, Zhoukou Henan, 466001, China

^ayueyunyang@163.com, ^b190626421@qq.com, ^cwangqinghua201@163.com

Corresponding Author: Xiaoguang Wang

Abstract

In order to ensure the quality and safety of chemical engineering training, The author introduces the “7S” management mode in the teaching of chemical engineering practice. This paper expounded the application of "7S" management mode in the chemical engineering practice, and discussed the the application effect of “7S” management mode in chemical engineering training.

Keywords

“7S” management; Chemical engineering training; Application.

1. Introduction

Under the trend of the transformation and development of local colleges and universities in recent years, the teaching system of local colleges and universities was gradually transformed from knowledge teaching system to practical teaching system [1], and training base construction has also been strengthened in local colleges and universities. All of these have created good hardware conditions for the practical teaching.

In recent years, more and more colleges and universities pay attention to cultivate students' comprehensive ability, especially for the production line of hands-on operation ability, independent thinking and dare to innovate the ability, the students learn the theory and industrial docking, improve the level of the students in teaching practice. However, how to ensure the chemical teaching and training quality and training teaching safety was every teacher must face the problems, such as the training of students in the process of understanding does not reach the designated position, lax discipline, initiative was not strong, lack of unity cooperation spirit, do not have a strong sense of responsibility; training instrument, equipment with the meaning placed; training device was easy to damage, material waste serious; environment of training enough clean, etc. These phenomena seriously affect the quality of the training teaching, and even cause safety accidents. Therefore, the practical training teaching needed an effective management model.

“7S” management model originated in the Japanese manufacturing [2], in recent years has been used in many fields, but also used in the field of teaching management. "7S" was the abbreviation of “Seiri”, “Seiton”, “Seiso”, “Seikeetsu”, “Shitsuke”, “Safety” and “Saving”. “7S” management mode to ensure the elegant production and office environment, good working order and strict work discipline, and improve work efficiency and product quality, reduce the waste, saves the material cost and time cost. The application of “7S” management in teaching can help create the teaching situation of enterprise, the training equipment can operate efficiently and safely, at the same time, it played a very good role in promoting students' good professional ethics [3]. Therefore, the application of the “7S” management mode in chemical experiment teaching in our college, based on the modern enterprise management system as a reference, simulation of enterprise management environment. Students can feel the modern enterprise management mode in the training process, face and try to solve all kinds of problems in the practice teaching.

2. The application of “7S” management mode in the teaching of chemical engineering training course

2.1 Seiri

“Seiri” referred to collate items by category, removed useless items, the purpose was to make the space vacated, to ensure the smooth flow of logistics, but also to prevent abuse, misuse of articles, this was the first step to improve the training environment [4]. The key points of “Seiri” was to classify and label the goods which placed or rarely used in training sites. Distinguish what is the site needs, what is the scene does not need, the equipment needed to be placed on the operating table, do not need to put the equipment in the equipment cabinet. Classification of storage in accordance with the category or use frequency of articles to ensure that the operation of the desk tidy; Second, useless or no maintenance of the value of the instrument after discarding the procedures, in a timely manner to clean up, items that were not needed to be firmly cleaned out of the training room, such as the remaining raw materials, the excess of semi-finished products, garbage, waste, excess tools, scrapped equipment, students' personal life, etc., this step was to establish a good style of the beginning.

2.2 Seiton

“Seiton” was to place the tools neatly and clearly marked., the purpose was not to waste time to find something. If every tools has a fixed position, there will be very few things that can not be found. Therefore, “Seiton” can improve the efficiency of work. In the training room, each piece of equipment and tools, if used on the workbay, do not have to put in the equipment cabinet. Equipment cabinets to be labeled, indicating the name of the item, quantity, easy to find. For example, each layer of the tool shelf can be stored for different types of tools, the first layer storage wrench, different models of the wrench can be placed in the order from small to large in the first layer of the tool shelf, second layer storage pliers, according to round pliers, sharp-nose pliers, diagonal pliers classification label store. Reagents can be in accordance with acid, alkali, salt, metal, organic solvents, other categories in the reagent cabinet, the label can specify the name and specifications of the reagent.

2.3 Seiso

“Seiso” was to clean up the training sites to prevent pollution, timely repair and maintenance equipment, to ensure the normal operation of the instrument. The purpose of “Seiso” was to make the training space clean and tidy, good operation of equipment, students to maintain a good learning and training, and to ensure the quality of products, and ultimately to achieve zero failure of chemical training. In the training process will produce dust, noise, waste oil, etc., make originally neat training venues will become dirty. Dirty environment will lead to lower precision equipment, but also affects students' emotions, thus affecting the training results, Such as fluidized bed drying, training in the process will have raw materials (millet, rice, beans) scattered, it was easy to make people slip, causing safety accidents. Therefore, after the end of the training class will leave a certain period of time, arrange the students to clean the site.

2.4 Seikeetsu

“Seikeetsu” was the adhere to and in-depth of the first three work. The purpose of “Seikeetsu” was to make “Seiri”, “Seiton” and “Seiso” to be institutionalized, standardized, and maintain the results. The purpose of “Seikeetsu” was to maintain the results through the institutionalization, to create a good learning and training environment, so that students enjoy learning and training, at the same time, can also reduce the occurrence of accidents. “Seikeetsu” and “Seiso” have a similar place, but “Seiso” was the specific implementation of the act, and “Seikeetsu” more concerned about the overall, “Seikeetsu” was to put the specific things institutionalized, standardized. In actual practice, teachers should guide the students and asked repeatedly special in the training period, reward good performance of students, poor performance of the students punished. After a period of training and strengthening, students will gradually form a standardized awareness, develop good training habits.

2.5 Shitsuke

“Shitsuke” means that everyone should abide by the rules and regulations, improve the quality of individuals, from the mentality to develop good habits. In the process of training students to develop good habits was a long and difficult thing. Managers must constantly strengthen the student's “7S” consciousness, develop the reward and punishment measures in the implementation process, and improve the implementation effect. We carried out our work from the following four aspects: (1) what all students need to do, the teacher must do first; (2) to establish strict regulations and publicity in the eye-catching location, criticize and educate students who violate the rules and requires a deadline to correct; (3) Leader no regularly checked, guidance and safety training for students; (4) the monitor and the study committee should help teachers to do well the preparation before class and after class acceptance, finishing work, cooperate with the teacher to complete the training teaching task.

2.6 Safety

“Safety” means to eliminate hidden dangers and prevent accidents, and to ensure the safety of students and the safety of equipment and property. The purpose of “Safety” was to ensure the continuity of production and to reduce the economic losses caused by safety accidents. There will be many security problems in the training room, which must be eliminated in time. For example, the training device will produce high temperature, high pressure in the training process, students should be strictly in accordance with the operating procedures in order to avoid burns or explosion. In addition, the use of chemical reagents in strict accordance with the instructions, to avoid the occurrence of leakage, corrosion and toxicity, students must be vigilant in the training process, cannot careless, otherwise it will bring great security risks.

2.7 Saving

“Saving” was the rational use of space, time, manpower and material resources to reduce the waste of resources, and to create a high efficiency and no waste of learning and practice venues. The things that can be used as far as possible do not throw away. For example, after the end of the training of grain drying, the whole grain should be collected for recycling; Filtration cake of constant pressure filtration can be dry grinding and repeated use; The damaged tools can be neatly placed in the tools box to prepare for the repair; After the end of the training should be promptly closed gas cylinders to avoid waste; After the end of the training to carry out safety inspection and lock the doors and windows of the training room, to protect the safety of the training room.

3. Application effect of “7S” management

Through the implementation of the “7S” standardized management in chemical engineering practice, students mastered the essentials of the “7S” management mode, students' skill level and mental outlook were improved. Specific performance in the following aspects:

The students' professional skills and professional qualities have been strengthened, and the professional quality, employment ability and the ability of sustainable development have been improved;

Students have developed a clean and orderly study and work habits;

The training efficiency of students was greatly improved;

The team spirit and cooperation spirit of the students have been improved.

4. Conclusion

Whether the products were recognized by the user was the only standard to test the quality of the product, if the student as a product, then the employer had the most right to test the product was good or bad. Students can quickly adapt to the working environment and meet the requirements of the employing units after chemical training and the “7S” training. The application of “7S” management mode in the chemical training base also reduces the unnecessary waste in the training process, and reduces the training cost. At the same time, “7S” management mode in the implementation of

chemical training base was also to provide a new management ideas to explore the practice of teaching and applied talents training

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