

# Construction and Management of Information Technology Training Room

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**Keywords:** training room construction; virtual simulation management platform; reservation management platform

**Abstract:** In order to meet the requirements of talent training, a training room construction was proposed. In view of the current low efficiency of training room management, it is proposed to apply information technology to the construction of training room. The principle of training room construction should be in accordance with the allocation of advanced technology and training materials. The training room should establish corresponding management systems such as equipment operating procedures and safety regulations. The use of advanced Internet technology to complete the appointment management platform, training management platform and virtual simulation management platform development.

## 1. Introduction

Traditional training management has complex operations and is difficult to monitor student dynamics, which can no longer meet current needs. With the continuous development of computer technology, applying it to training management can improve management efficiency. Literature<sup>[1-5]</sup> uses database, network communication technology and simulation technology as the core technology of training and teaching for the problems existing in practical teaching. The results show that the developed system greatly improves management efficiency and better cultivates student skills. Literature<sup>[6]</sup> discussed the construction of the training room in higher vocational colleges and proposed the rational planning, the integration of industry and education, and the introduction of talents in the construction of the training room. At present, the information technology used in the construction of the training room is too old. This paper applies the artificial intelligence technology to the construction and management of the training room.

## 2. Principles of training room construction

In the process of construction of the training room, the following principles should be adhered to:

### 2.1 Advanced technology

The purpose of the training room is to enable students to master the current advanced technology, and students can better understand the origin of technology through the study of the training room. Pave the way for future work.

### 2.2 Realistic simulation environment

The training room should provide realistic production workshops, engineering sites and supporting equipment to enable students to receive professional training. In addition, a corresponding question bank should be added for students to consolidate their knowledge.

### 2.3 Device Configuration

The equipment configured in the training room should be surrounded by: new, complete, and abundant to guarantee training equipment is integrated. The construction of the training room may be due to insufficient funds, resulting in the inability to use new equipment. The existing equipment

can be improved to ensure that students can learn the latest technology.

## **2.4 Writing practical training materials**

Excellent teaching materials can provide students with better learning ideas. The training room contains many types of equipment and involves multiple expertise. Therefore, it is necessary to write practical training materials. In the textbooks, the techniques, new materials, and new technologies used in production should be reflected.

## **2.5 Scientific management**

Establish corresponding evaluation methods. There should be a variety of methods for assessment, such as test paper assessment, practical operation, and student self-evaluation.

## **3. Management system of training room**

The training room contains all kinds of equipment, and it is necessary to establish a corresponding management system to ensure the safety of personnel, the normal operation of equipment, and the establishment system of the training room includes:

### **3.1 Operating procedures of instrument and equipment**

Write corresponding usage procedures, verification procedures, and operating procedures for each device. Teachers and students are required to take the induction test when using the equipment. Each device needs to record the usage time and maintenance time in time.

### **3.2 Safety management rules**

Develop appropriate safety management treaties and configure appropriate safety measures such as fire extinguishers and medical first aid kits. Teachers and students who violate safety rules need to be punished accordingly.

### **3.3 Inspection system**

Since the training room contains dangerous equipment, etc., it is necessary to arrange corresponding personnel to conduct inspections.

## **4. Construction of information training room management platform**

The training room management platform includes: appointment management platform, training management platform and virtual simulation management platform. The following is the details of each platform construction.

### **4.1 Appointment management platform**

The training room should break the traditional fixed model and cultivate students' practical and innovative ability. In the process of cultivating students, we pay attention to the combination of students' theoretical knowledge and practice, and realize the diversified development of practical teaching. An open appointment service can be added to the construction of the training room. During the open hours, there should be professional teachers in the training room to answer the difficult questions for students. Compared with traditional fixed training, this method can effectively improve students' ability to practice and innovate. Students need to make an appointment for the corresponding project in the platform before the training. After the information is submitted, the administrator assigns the corresponding instructor to the student for training guidance according to the information. The appointment management platform adopts the B/S architecture, which solves the system compatibility problem, and students can make reservations on their laptops or mobile phones. The front desk uses javascript technology to beautify, the background uses Asp.net technology for functional improvement, and the database uses the open source database Mysql, which reduces the system development cost.

## 4.2 Training management platform

The contents of the training room management platform include: student information management, teacher information management, equipment information management, training management, announcement management, user management, and data mining management. Student information management mainly adds, views and modifies student information, including student status information, personal information, and achievement information. The equipment management includes functions such as device information addition, device information modification, device information viewing, and device information deletion. The equipment information includes: device number, device name, and device usage. The functions of teacher information management include: teacher information addition, teacher information modification, teacher information viewing, teacher information deletion, etc. The teacher information content includes: teacher title, professional and so on. The training management includes training content addition, training content viewing, training content deletion, etc. The training content includes: training time, training purpose, student information, teacher information, etc. Announcement management is used to announce information, view, and so on. User management is used to add, modify, view, etc. user information. Data mining management is based on the data contained in the database to more accurately manage student training. Figure 1 shows the system training management mode.

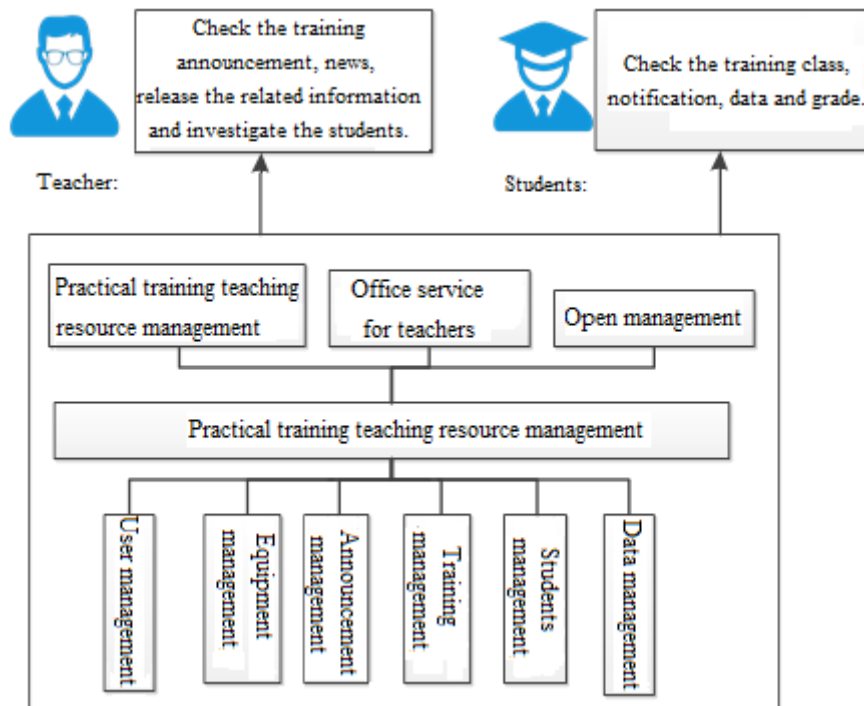


Figure 1. Training management mode

The training management platform development model uses the C/S mode. The software developed by C/S can provide students with a better experience. The system development technology includes: the interface is written in C# language, and the background kernel is written in C++ language. In addition, the corresponding serial port programming is also convenient for device management. The database uses the open source Mysql database.

## 4.3 Virtual simulation management platform

The platform combines multimedia and virtual technologies to develop a virtual simulation platform. This technology solves the problems that may occur in training during the training of dangerous equipment, low quantity of expensive equipment, and pollution of equipment. The virtual simulation management platform is developed using the C/S mode. To improve the simulation efficiency, the platform is written in C++. The database uses the open source Mysql database.

## 5. Conclusion

Due to the massive content in the management of the training room, the traditional management method cannot be efficient, which leads to the proposal of applying information technology into training room management. It indicates that the management principles of the training room are advanced technology, realistic simulation environment, equipment configuration and scientific management. The training management platform includes appointment management platform, training management platform, and virtual simulation management platform.

## Acknowledgement

Topic: 2016 Academy of Natural Science, Humanities and Social Sciences Research Project  
Name: Practical Research of Creator Teaching Method Supported by Education APP.

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