

# *Course Design Based on Virtual Simulation Training System*

—A case study of < Introduction of Hospitality Today >

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**Abstract**—The great development of information technology has brought revolutionary changes to China's Higher Vocational Education, the course reform has entered into the information era, and the virtual simulation teaching is an important breakthrough to deepen the reform of education. Taken the course teaching reform of <Introduction of Hospitality Today> as an example, this article completed the adaptability analysis of virtual simulation technology in our hotel management course. Based on the virtual simulation training system, we redesigned the goals, contents, environments and processes of the course, and then achieved the situationality, professionalization and informatization of this course. The course design based on virtual simulation training system promoted the innovation of hotel management course in several aspects, such as learning situation, course content and teaching conditions, etc. The course then became more systematic, professional and informationized. Through the practice, we gained more stable and effective teaching conditions and teaching modes.

**Keywords**—Introduction of hospitality today; Virtual simulation training system; Course design; Informatization

## I. INTRODUCTION

Recent years, higher vocational colleges in China are making some progresses in developing virtual simulation teaching, but the application is still very limited. The virtual simulation training in higher vocational colleges is mainly focused on simulation system, human-computer interaction, augmented reality, teaching and learning modeling in the field of the processing industry education [1]. Some application researches are also completed, such as Practice teaching design step research based on virtual simulation [2], the build of research-based learning mode [3]. Compared with the studies and applications of virtual simulation training in processing industry education, the virtual simulation practice teaching related to tourism is just getting started, and the education application studies are mainly feasibility analysis and suggestions [4-6], but the practice teaching study and design is very few.

Chengdu Polytechnic has developed several teaching softwares based on virtual simulation technology, and has also built a virtual simulation practice system for higher vocational tourism education, which is composed of virtual simulation

teaching resource library, virtual simulation teaching platform and open service sharing platform. This article, taking <Introduction of Hospitality Today> as an example, discusses the course development and teaching practice of higher vocational hotel management major utilizing the virtual simulation training system. We also hopes that our course teaching reform based on virtual simulation will satisfy the new education demands [7], which are propose by transformation and upgrading of tourism industry in the background of Internet Plus.

## II. FEASIBILITY ANALYSIS OF VIRTUAL SIMULATION SYSTEM IN COURSE TEACHING

### A. Existing problems in the course of <Introduction of Hospitality Today>

Limited by the teaching environment and technology, the teaching form is mostly classroom teaching, and the students are lack of practical opportunities:

- The vocational education attribute is not obvious. Pure theory teaching does not reflect the professional and practical nature of this course.
- Lack of experiential learning. It is hard to create teaching situation needed in the classroom.
- Unable to satisfy the learning needs of informatization, and hard to stimulate the students' interest in learning.

### B. Feasibility of the application of virtual simulation in course teaching

#### 1) Built of virtual learning situation, to achieve interactive, comparative learning.

Virtual hotel, restaurant and other business scene is built by virtual simulation technology, so the students can experience multi environment interactive learning. Multi brand virtual hotel learning environment is built by the virtual simulation training software, the students can get multi brand comparative learning, and then the lack of material in teaching is solved.

2) *Reform of traditional teaching methods, to realize autonomous learning.*

The learners can study autonomously on-line through the virtual simulation teaching resource library, using their mobile phones or computers. The simulation of multi brand hotels and multi type teaching material utilizing virtual simulation technology solves the waste and limited problem of consumable teaching materials.

3) *Improvement of the teaching process design, to achieve creative learning.*

The students can use virtual simulation softwares to finish comparative study of different brands, situations or cultures, and to enhance their design abilities and planning abilities. Through the above process, the single simulation operation will advance to the creative learning stage including creative design, virtual and/or physical resource collection, actual operation, cost accounting and planning report.

*C. Theory basement of course design based on virtual simulation practice system*

The combination of virtual simulation technology and higher vocational education needs has represented the theory of constructivism [8]. Through the virtual learning situation created by virtual simulation technology, abundant virtual learning resources are provided to students, in order to enhance their cognitions to hospitality today.

Many researchers have studied the teaching design theory under the support of constructivism theory. One representative example is the blended learning course design [9], which is highly integrated to the virtual simulation technology. The design can be divided into three stages, including front end analysis, activity and resource design, and teaching evaluation design.

This article studies the enterprise needs according to the international standard certification standard, then determines the course orientation and objectives. Guiding by the hotel post professional promotion path, the course teaching situations and contents are built, and the teaching conditions and activities design are also completed. But the teaching evaluation design is not concerned for the moment, as the teaching reform and practice of this course has just started.

### III. REFORM OF COURSE DESIGN BASED ON VIRTUAL SIMULATION TRAINING SYSTEM

*A. Determination of the course orientation and objectives according to the international standard certification standard*

The course construction standard is established with the introduction of United Nations World Tourism Organization (UNWTO) international education quality certification standard and the results of tourism industry enterprises investigation. Through cooperation with the international top companies such as InterContinental Hotel Group, the international hotel group post professional standard is introduced into the students' ability standard, and the course main objectives are determined to make the students be well prepared for the hotel career and obtain the comprehensive understanding of the management and operation of international modern hotels.

*B. Construction of course teaching situation and content under the guidance of hotel post professional promotion path*

The teaching process is logically organized with several stages, which are industry cognition, career exploration, career choice, organization entry and experience management respectively. Typical tasks are raised by digging deeply in the hotel industry, and the virtual simulation training system is well utilized to realize the integration of teaching, learning and practicing, which is the main feature of this course.

*C. Construction of teaching conditions with virtual simulation system*

*1) Classroom environment in school*

The classroom environment of this course is mainly relied on the development of virtual simulation softwares. Plenty of practice classrooms are built on the basis of different virtual systems, such as Chinese and Western virtual training room, hotel information management training room, theme room design training room, Wisdom hotel room training room, etc. With the help of these practice classrooms, the students can obtain ability training, multiple comparative learning and online autonomous learning.

*2) Virtual learning environment*

Based on the virtual simulation training system, the learning environment is reformed in several aspects, as described below:

TABLE I. THE COURSE TEACHING OBJECTIVES

Knowledge objectives	Ability objectives	Quality objectives
(a) To understand the characteristics of the service industry. (b) To know the basic concept and connotation of hotel industry, the classification and characteristics of various types of hotels. (c) To understand the meaning of hotel brand building and the significance of the hotel group. (d) Be familiar with the distribution of professional posts in the hotel industry. (e) To deepen the service and management philosophy.	(a) Be able to accurately analyze the characteristics of products and services in the hotel. (b) Having a keen sense of the hotel industry, and be able to accurately judge the trend of it. (c) Be able to do preliminary analysis and design of a hotel organizational structure. (d) Be able to analyze the operation process of various professional departments in the hotel, and conduct analysis and planning of department management process.	(a) Loving the hotel industry, good hotel professional ethics, having good communication skill and team-work ability. (b) Good English communication skills. (c) The sense of quality service. (d) Good team spirit, cooperation consciousness and professionalism.

**TABLE II. THE COURSE TEACHING CONTENTS**

Learning situations	Learning missions	Virtual learning environments
First acquaintance of service	(a) Analysis of service attributes and service differences	- Tourism and hotel virtual teaching center
	(b) Discussion on how to provide the best service	
Hotel industry and trends	(a) Understand the hotel industry	- Five star hotel lobby and guest room three-dimensional virtual simulation roaming system - International hotel brand culture comparative study center
	(b) Compare the main brand hotel enterprise culture	- Hotel Earth, the hotel brand global distributed interactive query system
	(c) Management and trends in hotel industry	- Hotel industry development training system
Exploration of hotel career	(a) Lodging	- Five star hotel lobby and guest room three-dimensional virtual simulation roaming system - Theme room training system
	(b) Catering	- The virtual training system of Chinese food and Western food - Theme banquet design system - Scan query system for food and beverage products
	(c) Hotel professional career analysis and selection	- Tourism and hotel virtual teaching center
	(d) How to find and adapt to your post	- Tourism and hotel virtual teaching center
Hotel organization entry	Enter the department, analyze the position of each department in the hotel	- Tourism and hotel virtual teaching center
Experience the hotel management	Enter the department, analyze the management process	- Tourism and hotel virtual teaching center

**TABLE III. THE CONSTRUCTION OF COURSE TEACHING RESOURCES**

Resource types	Contents
Conventional teaching resources	Course standards, PPT lectures, examination question bank, pictures, animations, videos, hotel industry professional standards
Hotel industry information resources	Domestic and international hotel industry dynamic information
Technical training resources	Post technical standards, work flows, service etiquette standards and skills training program of a number of brand hotels in Chengdu
Management training resources	Management post standards, enterprise case set, simulated training resource set of a number of brand hotels in Chengdu
Hotel marketing ideas	Electronic maps and product introduction of Chengdu's major star hotels

Firstly, the learning resources are composed of teaching standards and industry trends (see table III), and are released in the teaching resource database platform. Through the platform, students can achieve distance learning and autonomous learning, access learning resources of graphic and video materials. A large number of case materials are also available in the virtual simulation training softwares.

Secondly, the virtual simulation training system consists of several learning platforms, including virtual simulation teaching resource base, autonomous learning system, interactive blog space between teachers and students, online test question bank, etc. The course standards and learning missions are released through the platforms; students can share the teaching resources through the network, and it's helpful for students' initiative study and development after class.

### 3) Enterprise learning environment

The enterprise learning environment is designed on the basis of the five star hotel lobby and guest room three-dimensional virtual simulation roaming system. Through this system, students can use naked eye 3D technology to experience the different five star hotel lobbies and guest rooms, so the breadth and depth of multi brand learning is achieved.

### D. Design of teaching process

Based on the virtual simulation training system, the teaching process is focused on Situation orientation and

comparative study, and it consists of several stages, named autonomous learning, teacher guided learning, post roles experience, creative practice and innovation ability. The main purpose of the teaching process is to cultivate and enhance the students' active learning habits.

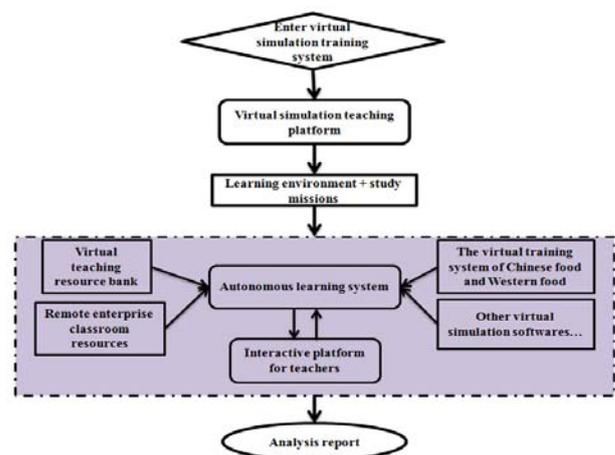


Fig. 1. Design of teaching process based on virtual simulation training system

## IV. SUMMARY

We introduced the virtual simulation training system into the course teaching design of one of our hotel management courses. And the virtual teaching, course teaching and enterprise advantage are well integrated through the virtual simulation training system. Up to now, the new teaching system has been well received by teachers and students. But the course development and reform of Higher Vocational Hotel Management is still in its infancy, we will continue to improve this system according to the operational feedbacks. And we also hope that the little step we have achieved will encourage the progress of the teaching reform of Higher Vocational Education in Chengdu and even in China.

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