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Construction and Application of Virtual Teaching Platform of Special English for Applied Chemistry

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Abstract

Teaching with the virtual network system is very important in modern teaching mode with its specialties of updating fast, high capacity and easy interaction. The virtual teaching network platform was constructed for the applied chemistry special English based on campus network in order to enhance students learning passion and initiative by the network. Through this virtual teaching system, it could answer online, deliver the newest chemical information, and help more students understand the applied chemistry special English knowledge. The system is characterized with easy used and management, extreme extensibility, stability, safety and so on.

Index Terms: Special English for Applied chemistry; virtual teaching system; teaching by network component

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1. Introduction

With the proliferation of computers and the rapid development of internet, virtual education, as an efficient way of modern education, is developed in an alarming pace. Teaching activities based on web have witnessed a vigorous momentum of development [1]. Currently, the network teaching based modern information technology, regardless of time limited, is a good opportunity for Special English for Applied Chemistry course [2,3]. According to the conditions and requirements of Special English for Applied Chemistry course of our university we made some useful exploration in the development of Special English for Applied Chemistry website with the rules of construction of advanced technology as the premise and a lively and practical core. The website (<http://202.118.167.91/dahua/kcsz/zyyy/default.asp>) was designed and explored for Special English. With the full use of the advantages of the multimedia in teaching and the popularity, practicality and convenience of the network, high quality teaching resource were integrated and shared through the network on the basis of the effective combination of video, three-dimensional animation, text and other media means. The students are free of accessing to the Special English teaching websites and getting information related to teaching content, learning the latest research result in chemistry, as well as some interesting development in chemistry. They may enjoy the relaxation learning method in the network environment.

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2. Basic rules of construction of the virtual teaching website

The purpose of virtual teaching website of Special English for Applied Chemistry was to train students to use information technology awareness and ability, promote the ability of application of information technology, and integrate chemistry courses [4]. It will be benefit to progressive realize the presentation of course content, change the mode of students learning, teachers teaching, and teacher-student interaction, and give full play to the advantages of information technology. The virtual teaching website provided large amount of educational materials and a powerful learning tool for students. Therefore, to develop and design the site, we followed the following principles.

2.1 Reasonable structure and clear layout

The main function of the virtual teaching website of Special English for Applied Chemistry was to serve for English teaching. The design should be centered on teaching, with clear layout structure, bright colors and simple text. The website design was mainly based on the well-conceived, to determine the site link structure, different function, and the module division level, which enabled users to be familiar with the website feature a clear concept of the structure [5]. It would enhance the usability of the website.

2.2 Rich content and focused key points

In the course of construction website, the relationship of rich content and focused the key points should be handled properly. We must provide sufficient information available to students, as well as make the organization of these elements together organically according to focused the key points. In this way, users visited the website would obtained enough content for their choice of learning content without wasting time and efforts[6].

2.3 Updated in time

Special English for Applied Chemistry is a course, which should be constantly updated and changed content with the development of chemistry. Therefore, the virtual teaching website can not be accomplished overnight. It needed a gradual process of accumulation. The virtual teaching website managed in the form of displayed in the front and managed in the back. The basic framework of the site (dynamic web pages and database technology) was accomplished by computer professionals. In the course of utilization teachers updated and enriched the website perfectly through the website management system according to the progress of teaching and development of academic chemical research. In the preparation of content, teachers tried to enrich the website with the latest, the best resources for Special English teaching in time to meet the needs of visitors to update their knowledge.

3. Basic structure and function of the virtual teaching website

With the principles of design and development of basic functions of the Virtual Teaching of Special English website, the website included both Chinese and English interface, the English interface was shown in Fig.1. In the home page, the different functions were achieved in the form of modules reflected by image button.

According to the teaching requirements, the website of Special English for Applied Chemistry had been optimized structure design [7].The specific structure was shown in Fig. 2.

Introduction of Course: In this part it was introduced that the Special English for Applied Chemistry property, the role of curriculum, course content, the purpose of course and reference books. Thus students could understand the general purpose of the curriculum system and the specific teaching content.

Theory of teaching: The relevant teaching materials were provided, such as syllabus, teaching calendar, electric lesson plans, electronic courseware, exercises and each chapter summary. These data made students to preview and review related after-school English practice easily. Students could understand the course syllabus and teaching calendar schedule, electronic lesson plans to learn purposefully. Students could also know how to master the key point of curriculum contents with the difficulties and priorities in e-lesson plans. Through the courseware, the exercises and examinations, students got the information of the examination methods. By the teaching resources, the learning efficiency was enhanced greatly.

Material library: This module was divided into the original material library books, scientific literature, pictures, audio and video material and chemical software. We offered hundreds of original chemicals English books, such as Organic Chemistry, Inorganic Chemistry, Analysis Chemistry, The Practical Methods of Organic Chemistry, and so on. English audio database included the original films related to chemistry, such as "Madame Curie", "A Beautiful Mind", etc. There were some commonly manuals such as the CRC, Handbook of Spectroscopy, Handbook of Solvents and so on. In order to facilitate students to read, we also provided professional Chinese-English dictionary, English-English dictionary so that students could find specialized vocabulary easily and quickly.



Fig 1. The homepage of Website

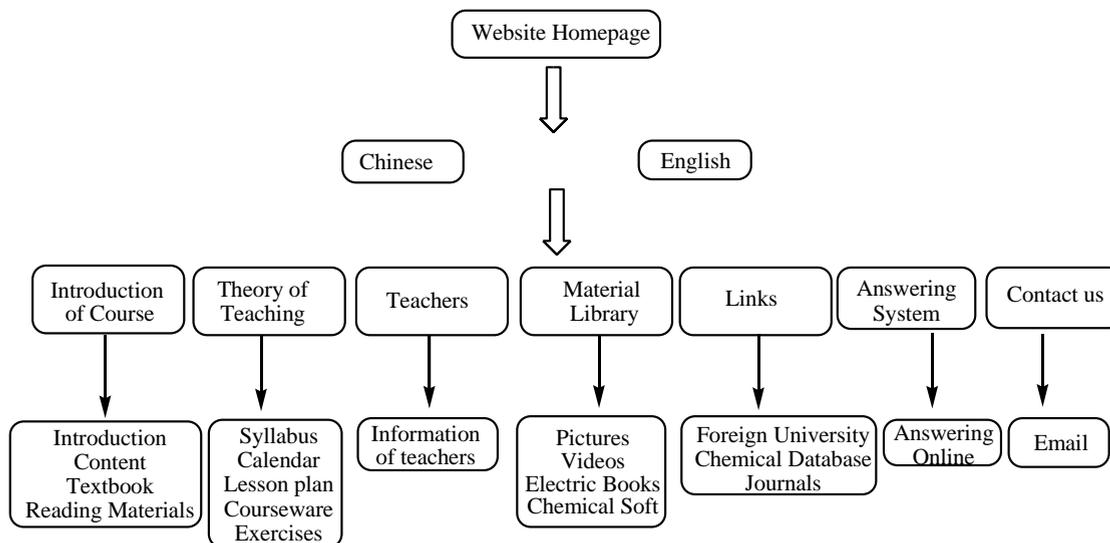


Fig 2. The basic framework of website

Links: This section provided links to relevant Applied Chemistry English website. It could access foreign journals website (<http://www.interscience.wiley.com>, <http://www.sciencedirect.com/>, <http://pubs.acs.org/>), the basic physical properties of compounds and the standard spectrum of the site (<http://chemfinder.camsoft.com>, <http://www.thieme-chemistry.com>, <http://www.cambridgesoft.com>, <http://www.orgsyn.org>), and the MIT's Open Course site (<http://www.core.org.cn>).

Answering System: We had established a campus answering system, which greatly facilitated students to ask questions. Considering the simplicity and practicability, the currently popular BBS was used. The answering system was used effectively and widely with its simple to approach.

Contact us: Students could e-mail to teachers by this system. Teachers could also arrange and modify homework through the network for students. As a convenient method, students used e-mail to get suggestions from teachers, which built a bridge comfortably and effectively between teachers and students.

4. Conclusion

The virtual teaching website of Special English for Applied Chemistry integrated the traditional teaching mode and teaching interactive. Through the virtual teaching website, students' interesting in learning was stimulated and students' vision was enlarged. Students showed more interesting and desirous in abroad universities teaching and international conferences. After graduation many students can write their resume in English to contact with instructors to apply to study for a degree of famous universities abroad. After three terms of teaching practice the network platform was continuous improved according to the students' feedback. It was conducive for students' development personality. Since the system was run, it had been clicked more than 3 million times. It was praised by students extensively. With the development of network technical and professional knowledge, we believed that the virtual teaching website of Special English for Applied Chemistry will be built better.

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