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Construct of Web-based Instructional Environment Based on Inter-subjectivity Fusing Cognition with Emotion—Taking the Website Design of the Quality Course Apparel Production and Management for Example

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Abstract

Faced with deficient ability of autonomic learning among learners and low emotional involvement in current web-based instructional environment, here we propose a construct model that is based on inter-subjectivity fusing cognition with emotion to make up for these shortages. Further more, we've put the construct model into practice through the online teaching reformation of the quality course *apparel production and management*.

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1. Introduction

Network is more than technology but also a new lifestyle. Along with the rapid development of information technology, web-based instruction is becoming more and more accessible and popular in universities as one major instructional form. Since it took a pilot program among four pioneering universities, including the prestigious Tsinghua University, web-based instruction had expanded nationwide rapidly. Consequently, researchers have studied hard on this subject. However, most current studies are focusing on the construction of instructional resources and technical supports and services. In contrast, the very learners involving web-based instruction were paid little attention to.

2. Analysis of Current E-learning Situation

Web-based instruction is a modern form of education deployed in online environment, which is based on network technology to exchange information. Compared to traditional instruction, web-based instruction provides an easier, quicker, freer and more open learning environment. In the wake of rapid expansion, the shortage of current web-based instruction is surfacing gradually, especially in the matter of interaction between teachers and students.

2.1. Low emotional involvement in web-based instructional environment

A healthy psychology is a fundamental element for students to engage in personal overall development. In online environment, teachers and students are separated geographically. Traditional face-to-face communication is replaced by online forums in BBS community. Students only can keep “a teacher image” in their mind through the monitor failing to hear teachers’ vivid speech and see teachers’ expressive body language, expression and posture with distinct individual characteristics. As a result, both students’ cultural group image which can trigger teachers’ desire to elaborate knowledge points and teachers’ cultural personal image which can trigger students group’s perception of knowledge don’t exist anymore. Meanwhile, teaching and learning is asynchronous for most of time in online environment. Consequently, it is hard to submit as well as handle feedback in real-time, which will weaken students’ enthusiasm to get involved in online learning.

Moreover, some teachers can’t grasp the essence of web-based instruction. Sometimes, online teaching turns out to be direct copies of textbooks, which should have been a rich vivid multimedia presentation. The advantage of online teaching over the traditional has totally not been reflected.

In web-based instructional environment, both teachers and students have low emotional involvement. Seemingly, network is getting teachers and students geographically closer. Indeed, it will incur materialization of interpersonal relationship and alienate people psychologically.

2.2. Web-based instruction puts autonomic learning into dilemma

Web-based instruction stresses on students’ personality and leading roles. In web-based instructional environment, students can arrange their study schedule freely, combine new knowledge with the previous autonomously and construct their own knowledge system. However, an obvious contradiction exists in online environment. That is, web-based instruction aims at promoting students’ ability of autonomous study, which is also the prerequisite of itself. As an advanced form of study, autonomous study is characterized by self-organizing, self-planning, self-supervising, self-adjusting and self-disciplining. In order to keep up with the rapid changing information society, contemporary college students should grasp this ability, which of course should become a goal of web-based instruction. But the reality is quite far from satisfaction. Because students have no idea about their goals or ways to reach there, they are apt to get confused and distracted when facing vast resources on the web.

2.3. Web-based instruction simplifies the fostering process of students’ overall ability

Education should not only impart specific knowledge and skills to students but also foster their creativity, ability to study autonomously. On one hand, students make progress on cognition to the physical world. On the other hand, they should elevate their emotional intelligence in interpersonal communication.

The sad thing is that web-based instructional engineering gives too much attention to technical applications, resource exploitation and economies of scale resulting in the simplification of education. Education is simplified as teaching, knowledge impartation or even examination guidance in online environment, which goes against the original goals of education.

3. Proposal of Web-based Instructional Environment Based On Inter-Subjectivity Fusing Cognition With Emotion

3.1. Inter-subjectivity theory

Inter-subjectivity is the relationship among two subjects or more, eliminating the contrariety between subjects and objects. As the theoretical basis of class interaction research, inter-subjectivity is elicited by

philosophical ontology and emphasizes on that shared cognition and consensus is essential in the shaping of our ideas and relations.

Traditional education thought that educators should foster learners according to social demands, in which that educators influence learners is the core. In educational circle, some pioneering educators had noticed the shortage of this model and proposed reformation, regretfully which just went to another extremity. They transformed educators-based model into learners-based one. Dewey's child-centrism is a typical case of this kind.

In terms of educational phenomenon, the relationship between teachers and students is the cornerstone for class community and a key element to determine the vitality of this community. Both teachers and students are subjects in educational activities and are regarded as a unified spiritual whole. Network just provides a platform, on which inter-subjectivity forms between teachers and students.

3.2. Theoretical background of the model fusing cognition with emotion

Cognition and emotion are two components of human's subjective consciousness, which is not only an old philosophical topic but also a popular topic in modern psychology. Their relationship had a profound impact on educational patterns, reflecting on patterns like knowledge-oriented tropism, using emotion to optimize teaching and fusing cognition with emotion in history.

The pattern fusing cognition with emotion regards cognition and emotion as a unified whole. Whether teaching activities can be deployed smoothly or teaching goals can be achieved depends on the construction fusing cognition with emotion. This pattern aims at stimulating students' enthusiasm and initiative in study and making teaching content more acceptable to students through setting up humanized environment to fuse students' cognition with emotion.

Teaching is a career with humanism, which asks teachers not only to response to students' cognitive experience but also emotional experience. With the development of instructional philosophy, we are realizing that the mutual promotion between cognition and emotion can truly boost personal overall development. Owing to the inadequacy of current Web-based instruction, cognition and emotion are nearly separated to students. Hence, it is urgent as well as important to construct a web-based instructional environment fusing cognition with emotion.

3.3. Construct of web-based instructional environment based on inter-subjectivity fusing cognition with emotion

In order to promote emotional interaction accompanied by knowledge impartation between teachers and students in online environment, this paper try to construct the model from three aspects.

3.3.1. Establish a study community based on communication-feedback

In online environment, both teachers and students are regarded as subjects equally. Teachers should guide and help students to engage in autonomous study and students should submit their feedback in time. Then teachers can prepare corresponding supportive instructional resources. Thus a communication circle is established between teachers and students. Through all kinds of teaching activities, this circle can be enriched and enhanced with emotional involvement. And around it, an effective study community can shape up naturally.

3.3.2. Strengthen the emotional design of the instructional resources and website interface

Holmberg thought that instructional resources are the third emotional point other than teachers and students. At first, the representation of instructional resources should be diversified by utilizing all kinds of media to enhance students' sensory experience. Secondly, students can choose instructional resources by themselves rather than limiting to teachers' recommendation. Thirdly, the emotional interaction design of website interface should be taken into consideration to enhance emotional exchange both between teachers and students and among students.

3.3.3. Design diverse learning activities

Learning activities should simulate real situations as far as possible so as to stimulate students' enthusiasm and initiative to explore and solve practical problems. And tasks provided should be relatively complex and need cooperation, so students can communicate with and share their experience with each other more. By means of engaging in learning activities, students can share value of the online community and elevate their enthusiasm to get involved in online study.

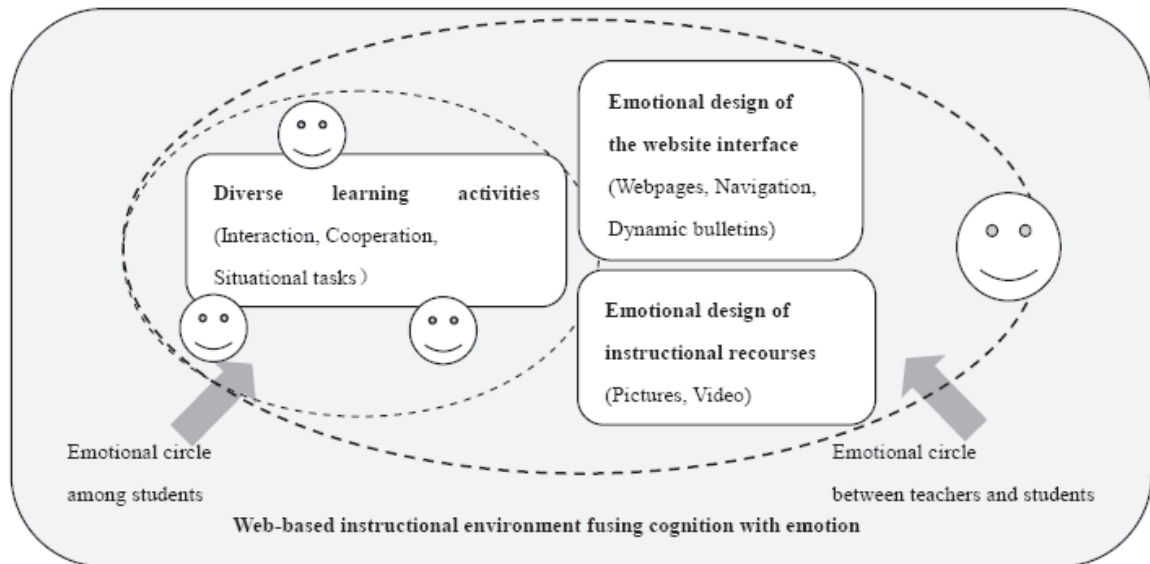


Figure 1 Construct of web-based instructional environment fusing cognition with emotion

4. Practical Construction of Web-Based Instructional Environment—Taking the Website Design of the Quality Course *Apparel Production and Management* for Example

The instructional website of *apparel production and management* is the online representation of the quality course of *apparel production and management*, which belongs to quality courses of Zhejiang province and serves the major of *fashion design and engineering*.

As a core course, *apparel production and management* undertakes the responsibility to foster professionals in apparel production. The website of *apparel production and management* is served as a supportive power. To tackle the problem of low emotional involvement in web-based instructional environment, we have reformed the course of *apparel production and management* and relating website interface to design such an online environment that highlights inter-subjectivity fusing cognition with emotion.

4.1. Structure of the website framework based on inter-subjectivity

The structural design of navigation in this website conforms to the principle of epistemology, which is from surface to the deep, from a lower level to a higher level step by step. This website guides students through the following five items: course guidance, course content, course resource, task system, and interaction.

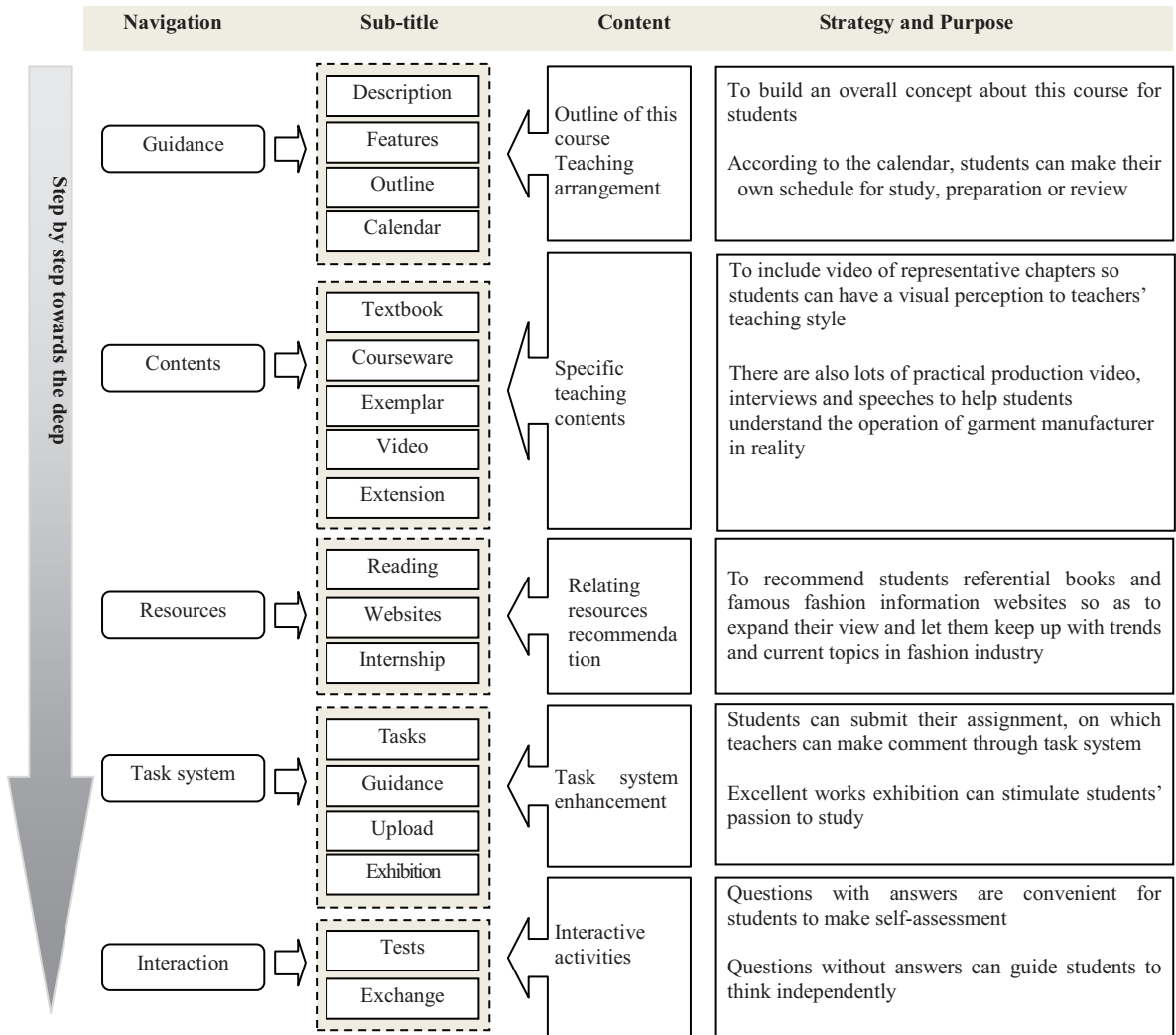


Figure 2 Structure of the website framework based on inter-subjectivity

4.2. Content design of the website fusing cognition with emotion

The *apparel production and management* website stresses on convenience, experience and emotional involvement and devotes to construct such an online environment fusing cognition with emotion.

4.2.1. *Setting of favorite columns*

Different from old-fashioned web-based instructional system, we put the favorite columns in the middle of the webpage, which is highly accessible to students. By this way, we've elevated online learning experience.

- *Column of task system*

As a most favorite function for students to look up as well as submit assignment, we put this column in the most highlighted position, center of the webpage. Furthermore, we have set short links for relating coursewares and references so as to help students finish their assignments.

- *Column of online interaction*

In order to update students' feedback in time, we make a scrolling effect to this column. Taking teachers' practical situation into consideration, we will announce online interaction schedule to students in advance. Moreover, initiating interactive activities regularly will make interaction more effective.

- *Column of notification center*

We set this column on home page, from which students can get relating information or notification about courses in time. On the other hand, this column will get students involved in online instructional environment more.

4.2.2. *Scrolling column on homepage emphasizing on emotional interaction*

We are trying to create an amiable atmosphere for students through the design of our website. On the homepage, pictures taken from students' practice, experimental environment and their works are played on a rotation, which shortens emotional distance between teachers and students.

4.2.3. *Teaching video and teachers' profile*

Teaching video and profile of teachers can help students learn different teachers' style and major. There are teachers' real pictures posted in personal profile to eliminate students' strangeness to teachers. In this way, teachers' images become vivid, which is helpful to online interaction.

4.2.4. *Short links of references*

The course of *apparel production and management* stresses on both theoretical knowledge and practice. Consequently, we set lots of practical tasks. And to accomplish these tasks, students will need knowledge of manufacturing, technique and processing and usage of relating equipment. In order to facilitate students to look up reference, we have set short links to relating quality courses, such as *garment processing* and the website of *fashion experimental teaching center*. Meanwhile, we have integrated and optimized the available resources within our college.

All in all, all designs of content and style on the website are aiming at one goal: to stimulate students' enthusiasm and initiative to study with positive emotional involvement.

4.3. *Ability-oriented design of task system*

Assigning task is one crucial means to enhance teaching content and foster ability for students. Our task system is composed of basic cognitive experiments and comprehensive design of experimental projects to foster students' ability to tackle practical problems with theoretical knowledge. We guide students to form corresponding teams to handle comprehensive projects and foster their cooperation consciousness.

4.3.1. *Situational tasks-driven model*

In traditional model, teachers give students tasks after end of each chapter. These tasks are often independent and limited to specific chapters, which goes against the principle of fostering students' comprehensive ability. To overcome above shortcomings, this task system includes market surveys, two experimental projects and one comprehensive practical project. All these tasks are related and go forward one by one. According to the teaching schedule, all these tasks will be deployed step by step.

4.3.2. *Guidance of tasks*

Owing to the complexity and difficulty of comprehensive practical tasks, we provide students supports and tutorials in this column.

According to our empirical experience, theoretical knowledge and practical requirements that teachers have taught and stressed in class are not fully grasped by students. In practice, students can also make some silly mistakes. To deal with this phenomenon, we've set up corresponding tasks guidance. For example, the

project of simulating enterprise' overall operation is quite a complex task. So we've specified the purpose, specific content, project detail and the whole schedule of this task in advance. Hence, students can make adequate preparation before the practice.

4.3.3. Exhibition of excellent works

We also set up a column to exhibit excellent works from students. We've uploaded some excellent works for each task as models to guide and inspire students. On the other hand, the creating process of excellent works and relating media coverage are shared in this column to evoke students' interest and emotional involvement.

5. Summary

Web-based instruction is becoming more and more popular an educational form in contemporary environment. Hence, it will draw more researchers' attention to explore the application and effect of inter-subjectivity fusing cognition with emotion in online environment. Inevitably, web-based instruction is becoming one of teaching trends in the future to boost personal overall development.

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