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Development-Driven E-learning Education Model and Application in Teaching Information Technology

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Abstract

Higher education in China faces great challenges and opportunities in nowadays. One remarkable issue is the high unemployment rates of graduates because of their skills not matching the requirements of real world. A new development-driven e-leaning model, which combines modern educational thoughts and advanced educational technologies, is proposed for dealing with this issue. One case of development-driven e-learning model application in teaching fundamental information technology is introduced and some key issues are discussed. The result shows that the new development-driven e-Leaning model can improve learning interests and efficiency for college students and increase student's suitability to global workforce market.

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1. Introduction

Higher education in China has been developing dramatically in the past three decades. The total amount of students in colleges has increased very quickly since 2000 [1]. The development of higher education makes a special contribution to economic development and social progress. At the same time, higher education in

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China faces some challenges. The most remarkable problem is that the quality of higher education could not meet the needs of human resources. Many college graduates could not find jobs related to their majors after graduation. It is a big waste of human resources and causes some social issues. Although the governments and colleges have made a lot of efforts on dealing with this issue, unfortunately, the progress is very limited. The crucial problem is that the traditional higher educational system have not been adjusted timely to fit the new challenges, students are lack of motivation in learning and clear career development objectives, the skills that students learned in universities do not match the requirements of workforce market and most of students do not have the abilities to effectively update their practical skills after graduation. It is high time that we have to rethink about how to improve the current higher educational system, in order to strengthen the competitiveness of graduates by using any effective educational thoughts, techniques and advanced technology resources, especially computer and internet resources. A new educational model named as development-driven e-leaning model, which combines modern educational thoughts and advanced educational technologies, is a practical way to solve this issue.

This new model focuses on two aspects, one is that the essential objectives of education are to facilitate student development and have the skills which students will learn in college fitted the needs of reality. The main educational technique is to foster students' interests, exploit their potentiality and enhance their competitiveness in the real society. The other aspect, which is called e-learning, is to adopt every advanced technology, especially information technologies in education. E-learning has been used in education worldwide rapidly in the past few decades. The US plays a leading role on e-learning in the world. The study shows that while 56% of current students are enrolled in an entirely classroom based leaning system with 39% taking at least some online courses and 5% completely online. In five years from 2009 only 19% of students are likely to be enrolled in an entirely classroom based learning system with 68% taking at least some online courses and 13% completely online. This means the total number of online learner in US will dramatically increase from 12 million to 22 million over that five year period[2] [3]. It can be seen that e-learning will become a predominant form of higher education in the USA. It is a revolutionary change to higher education in USA by using e-learning. In China, efforts also have been made to improve the education quality by adopting new education thoughts and e-learning to higher education in recent years, there is still a long way to go. Most of the current education methods could not meet the demanding of current workforce situation and the future development of student. There are many challenges and opportunities for Chinese higher education. Thus, aiming at improving higher education quality, in term of increasing students' competitiveness and popularity, development-driven education thoughts accompanied by e-learning was proposed and put into practice in teaching information technology.

2. Traditional education model and development-driven e-learning model

For traditional education model, college makes the teaching plan for each major, the students majored in a specific subject complete the training plan and get credits by taking every course and attending each class in which a teacher makes lectures in the classroom. This model worked in the stable era before information technology. However, the current world has been constantly evolving with information technology. Consequently, adjustments have to be made to the traditional education model to meet the new challenges. The development-drive e-learning model is one of the adjustments. It focuses on individual student's interests, development, practical skills, application of technology and using all advanced education techniques to increase student's abilities and confidence in facing the rapidly changing world. Student learns the subjects that he is specially interested in and knows that the subjects will be beneficial to his career and future development. Student knows why he learns, how to learn and can learn not only in classroom but also by using e-learning platform and through practice. E-learning plays very important role in this model. There is no standard definition for e-learning. The key of e-learning is the use of information and communication technologies on education. The main feature of e-learning is that is comprised of all forms of electronically

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