

Research on Development Strategy of Professional Courses of Vocational Software Technology based on Working Process

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Abstract. The working process based on curriculum development is the direction of curriculum reform of occupation education software technology professional. The relevance of the occupation education curriculum based on working process is not strong that caused the courses losing. Combined with the actual situation of the development of curriculum system, the work process oriented, based on analysis of the software industry, to describe the learning field, to develop a complete learning tasks in software design and development of typical tasks for teaching learning situation. Through the body, the reconstruction of the course of software technology in higher vocational colleges professional content changed the teaching contents and methods reflected the course of occupation, practicality and openness requirements fully.

Introduction

Professional course in software technology development in higher vocational education plays an important role in the construction and education reform, research should be put in the specific environment of software industry. Software technology updates fast, lead to changes in software occupation field quickly, the existing curriculum is not more and more adapt to the needs of social development. Therefore, the open curriculum educational software technology professional development in higher vocational education should be as a typical feature of practice, the performance of software technology specialty course should be based on social software design and development of the field of occupation from low to high content organization, according to the related advanced software vocational qualification standards, teaching content update software development courses, reflect the latest technology and achievement of social software industry, to enable students to understand, master the software industry of new technologies, new results, new ideas, new problems and new trends, adapt to the need of social competition and development.

The Federal Republic of Germany promulgated the "Regulations on occupation education" pointed out: the occupation education = to work and study. Occupation education focus on professional knowledge and carry out occupation education does not meet the requirements, you should contact with work related knowledge from the first day to accept the occupation education, basic knowledge of not only the teaching of various separate or independent, the knowledge integration process in action software occupation practice, learning should be established in the on the typical tasks corresponding software design and development practices.

In this paper, combined with the actual situation of software technology teaching in higher vocational colleges, work in software design and development process oriented, based on analysis of software industry, the design and development of student learning software description of the area, with the typical software design and development work task to develop a complete learning tasks, reconstruction of software technology specialty course the content of the complete, fully embodies the characteristics of occupation of software technology specialty course teaching in Higher Vocational education.

Curriculum development ideas

The curriculum development process oriented work process design and development based on software, is to construct a highlight the action system process, students acquire knowledge of the

process is always with the specific software industry corresponding occupation practice, thinking and learning process of students in software design and development of intact, the students after graduation can adapt quickly society, and meet the needs of social development.

Curriculum development train of thought: the course of software technology professional development and break the original subject system, to develop software occupation ability as the core, with the typical working process of software design and development of business process oriented, follow the "learning is the content of the work, the guiding ideology of learning" through the work of the organization, working process of logic to the design and development of software as the curriculum content, the typical tasks for design and exploitation of software as the carrier, in order to complete the task as the curriculum goal, the implementation of the principle of the work process design and software development of the action oriented curriculum, teaching content, realize the reorganization change teaching method, change the learning situation, fully reflects the course of software technology professional occupation., practicality and openness requirements.

(1) The course content of systematic work process design based on.

In order to adapt to the software enterprise post need, design of software technology specialty curriculum content should reflect the software occupation ability standard, in the software design of open positions and occupation standard as the basis, the systematic design of software enterprise workflow based on the teaching content of the course of reconstruction, the software development, the software design and development of a task as the center to integrate the corresponding knowledge, skills, realize the unity of theory and practice, advanced, typical, applicability, expand the contents of the curriculum, training students in software design and development of the complex judgment and comprehensive occupation ability to take action.

(2) Design based on the action oriented teaching method.

Action oriented teaching methods, classroom will play the main role of students. Each method and software design and development tasks to adapt, "teaching, learning, doing" in one, set theory, operation training in one, complete the task of software development project. The teacher plays a role of organizer and coordinator in the process of learning, let students through independent access to information, independent control software technology professional knowledge and occupation ability.

(3) The task driven teaching organization design based on.

The working process of software design and development as the main line, in order to complete the task of software design and development as the goal, to organize the teaching activities from easy to difficult, to promote the communication between students and cooperation, stimulate students' enterprise project development and other complex activities, but also to provide students with a rich network of teaching resources, through the organic combination of in class, after class, and gradually realize the transformation from the learner to worker role, satisfies the student occupation career development needs.

Vocational curriculum development strategy based on the working process

Occupation education work process design and development software courses based on, is a typical task of software development based on working process, the design and development of software oriented, based on project teaching is a typical form of task learning field curriculum type. Based learning field curriculum development is the work of software design and development process by post, with the relevant work summarizes the post industry (i.e. typical tasks), and then by the industry export learning field, finally through the suitable teaching learning situation make it concrete, namely industry -- Learning Field -- learning situation.

Analysis of industries

The following software industry technical personnel category specific positions:

(1) Software development engineer: mainly engaged in software development and implementation projects.

(2) Mainly engaged in software testing system test;

(3) The pre-sale after sale technical support: mainly engaged in project design, system technical support work.

Learning field of description

Industry is the software design and development work practice and social situations in the action and ability, form the learning field is based on software industry on the determined for the curriculum development of content, from the software industry to study field conversion is the cognition and occupation development law of progressive reconstruction action field and converted into a course according to the working process, the design and development of software as the basic point of reference, analysis of working process, design and development of software description and evaluation occupation field of action selection action areas, determine the students' learning field.

Design of learning situation

Learning is the learning unit, a project case, the software design and development of theoretical knowledge, practical skills and practical application environment together. According to the analysis of software design and development process, the formation of three learning situations, in each study design and development of setting the related software in the context of the formation of the corresponding task, the learning environment design and task goal, stage to complete the whole knowledge system of learning.

The Federal Republic of Germany in the framework of "teaching plan" completed "learning field" instead of "subjects" change, release the occupation education to local economic and social practice needs the signal to the design and organization of learning activities, how to determine the typical tasks a occupation jobs and transformed into the corresponding learning tasks, "typical tasks of all kinds of occupation educational institutions must solve".

Selection and integration of the tasks

The task, namely, in order to achieve the goal of personnel proposed activity requirements. In order to realize the goals and results of different, can produce a variety of different tasks carried out work activities, according to the real requirements for design and development of software, task selection must be based on the software enterprise's real situation, to observe and determine the practice of software design and development of learning content from multiple enterprise perspective.

First of all, it should list the design and development of software from the perspective of the task. Followed by a coarse to fine search principle, software development, software testing tasks in the software enterprises, the task may exist in a software design and development of the typical practice fields, to its full list alternatives.

Secondly it should Integrate the task from the perspective of process. Software enterprise work flow has a relatively fixed pattern, design and development of every software tasks are to determine the mode and business process to keep in touch, we are in the software development process, should also pay attention to other work and the communication and collaboration process, process integration are equally important to choose a job task and teaching subject.

Construction of the learning tasks

The task of learning sources in software design and development tasks, but it is different from the task, in order to adapt to the students' learning, and meet the design and development of software enterprises work needs, learning tasks and software design and development tasks in the structure must have the consistency and integrity of the height.

Conversion of work task and the task of learning. In the task structure design and development of software integrity of the post, must be converted into the students' learning task. The basic principle is: conversion without any "modular" split, must ensure that the integrity of the structure learning task, the learning task can ensure that learners through the complex, progressive, structure associated with the same learning actions, such, can ensure that from the beginning to the software design and development of real tasks as a guide.

Specifically, the learning task is derived from the task of the design and development of software to work, learning occurs in the process of software design and development, therefore only teach the learning tasks necessary theoretical knowledge, and not knowledge certain theoretical basis, and with the help of an example to verify the theory of knowledge the master. Considering the structural integrity of the learning task, which means that each learning task should have a unified structure, structure remains the same, instead of learning module of knowledge, to complete a comprehensive exercise. The learning task if only as pure practice tasks, will lose its structural integrity.

The design and development of learning task. The corresponding design and complete software development task is the highest level of difficulty of the learning task, contains all the sub tasks in the task. In order to adapt to the learner's cognitive principle, should be designed as a series of from easy to difficult, from the simple to the level of different requirements of complex learning task, of course, all the tasks are to maintain their structural integrity.

The development and design principles of learning task is: begin learning task difficulty difference is small, so that learners acquire basic skills, in small steps forward with the necessary knowledge, knowledge of core competence and professionalism so that they develop software design and development in the course of action, and then gradually increase the difficulty level of the task of learning. Developed according to this learning task will be built on a solid foundation, and has the characteristics of software occupation practice oriented, and can ensure that the learning task is working process and operation process of integration in the design and development of software.

In the learning task 1 development, will be named the first learning task as the learning task 1, then 2, and meet the learning tasks, from easy to difficult sequence), must assume a question: whether the learner can completely or partially handle this task? If the answer is yes, then the learning task can be executed; if the answer is negative, need to check the learning tasks you can simplify processing until the learners can master, if the simplified treatment is not feasible, it is required to find out the key point, and in the design of learning task 2 again the key point out audit, eventually forming a the whole learning task is simplified to the task of learning.

Evaluation of learning results

Learners completed a learning task, should check and evaluation of learning effect. In the construction of the learning task series, to the requirements of learners is step-by-step, through the inspection and evaluation, the learning task 2 and task 3, some knowledge and ability relative to the learning task 1 will continue to be fixed and expansion.

In the design evaluation, should follow the following principles:

(1) The ability to act only in software design and development of a complete application process demonstrated. That is the choice of evaluation of the project should be completed and reach the one learning task ability level consistency;

(2) Evaluation does not aim to examine learners reproduce ability of the abstract knowledge, but in the concrete action in situations of organization skills, if necessary, can also provide theoretical problems related with practical situation.

Summary

In short, with the rapid development of information technology, software technology update cycle becoming shorter, this trend is reflected to the higher vocational education software industry, the inevitable requirement course education software technology specialty in Higher Vocational Education and its contents will be able to keep up with the pace of social development, selection of the most basic, the most comprehensive, the migration principle of the highest value, make students learn knowledge structure, integrated, form a system of knowledge, solid foundation, comprehensive ability, innovative spirit and comprehensive quality. Therefore, the development of technology curriculum in Higher Vocational Colleges to comprehensive, open software, the overall direction is the strategic choice of the curriculum reform of Vocational colleges.

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