Development of Vocational Education Management Major Courses Based on "Working Process"

Renzhong ZHOU, Jing SONG
Shenzhen Polytechnic, Shenzhen, China

ABSTRACT: Course development is the key step in the "learning with working" teaching reform. The development method based on "working process" provides ideological instruction for us and particularly stresses that course teaching goals, teaching process and teaching actions must respectively orient towards typical professional working abilities. This paper, based on the detailed experience of national model major construction of Shenzhen Polytechnic, takes the logistics management course *Supply Chain Management Practice* for example and introduces the practices and effects of major course development based on "working process" and the "learning with working" teaching reform.
KEYWORD: Learning with working; professional action ability; working process; major courses

1 INTRODUCTION

"Decision of the State Council on Vigorously Developing the Vocational Education" (No. 16) issued by Ministry of Education in 2006 proposed to actively carry out a learning model which is combined with productive labor and social practice, regard "learning with working" as an important entry into higher vocational education talent training model, drive major adjustment and construction, and guide course setting, teaching contents and teaching methods reform [1]. Under the great promotion of the State Council and Ministry of Education, China's higher vocational education has undergone profound and comprehensive reform. In the process of course system reform, we respectively refer to German "dual system", CBE model of Canada, module skill combination course model of International Labor Organization, professional cluster course model of U.S. and other countries' vocational education course system building models. German dual system core ladder course model has great influences over the reform in China's vocational education course system reform [2]. The feature of such course system is to emphasize dual training of class and factory, book and practice, teacher and master while relying on industrial schooling, which has fully enhanced students' practical ability. It deems professional practical activities as its core and divides the general course structure into vocational basic education, vocational separate education and vocational special education, and it's mostly used in secondary vocational education. The "dual system" model has exerted significant influences over China's vocational education reform. To implement such model, schools and enterprises should work together under a legal operation mechanism and make great investment in equipment and capital.

2 IDEOLOGICAL CONNOTATIONS AND APPLICABILITY OF COURSE DEVELOPMENT BASED ON "WORKING PROCESS"

2.1 *Ideological Connotations of "Action System" Course System Building*

By drawing upon the action-oriented ideology of Germany, JIANG Dayuan (2003) first put forward the "action system" course model. The feature of the model is to emphasize the integration of overall teaching behavior and typical professional behavior, technological practice knowledge and technology theory knowledge [3]. It underlines the retrieval of procedural knowledge ("how to do" experience knowledge) and practical knowledge ("how to do better" strategy) in self-construction, and that student subjects should enhance their ability of practical problem solving, acquire complete professional action capacity and realize internalization and application of abilities through action (task-driven).

According to the model, course, as the carrier of teaching contents, should abide by three principles during course development: principle of scientificity,

principle of situation and principle of human orientation. The course development corresponding to the principle of scientificity is placed under the framework composed of major disciplines and regard structure logic as the center. The framework is the discipline system. The course development relevant with principle of situation is put in the framework which constitutes the practical contexts and centers on process logic.

2.2 *Applicability of Course Development Model Based on "Working Process"*

Working process is a tool used for scientific analysis of people's "professional action" and a complete working action procedure which working staff perform in order to finish a task and achieve results under working context. Standard working process and technology procedure include four factors of node, direction, workload and achievement. The important feature of learning with working courses is systematic working process, or "based on working process".

During the national model major construction process, Shenzhen Polytechnic mainly adopts the "action system" course development model and conduct course reform with task orientation. According to different course features and goals, courses are divided into four categories: (1) general cultural courses: the focus should be on "cultivation" and "development", and it's better to be basic knowledge which individuals of contemporary society should grasp; (2) major courses: it's aimed to develop technological practice ability and integrate technological practice knowledge and technology theory knowledge with tasks as the core; (3) comprehensive practice courses: it is oriented towards the working process and concentrates on technological practice knowledge; (4) discipline courses: it attaches great importance to technological theory knowledge. The reform of management main courses and practical training content design particularly emphasizes course development thought which is based on "working process" [4].

3 MANAGEMENT COURSE DEVELOPMENT THOUGHT BASED ON "WORKING PROCESS"

3.1 *Course Development Features Based on "Working Process"*

Major course development based on "working process" stresses that courses should be developed according to the order of working process from the starting point of professional working process technology application or management implementation procedure (program). It focuses on practically applied experience and strategy acquisition and regards properly sufficient concepts and understanding of principle as assistance, that is, taking procedural knowledge, practice knowledge as the principal factors and declarative knowledge and theory knowledge as auxiliary factors. In other words, "how to do" and "how to do better" are the main part and "what it is" and "why" knowledge is the secondary part.

To carry out major course development and teaching based on "working process", the following features must be paid special attention to: (1) teaching goals must regard the working ability of each major's corresponding typical professional activities as the orientation; (2) teaching process must be aimed towards the working process corresponding to each major's typical professional activities; (3) teaching behavior should be directed towards working situation corresponding to each major's typical professional activities; (4) in terms of course goal, practice knowledge and selected theoretical knowledge should be adopted to develop students' practice ability; (5) regards to course content, practice knowledge is the core of the task-centered courses; in terms of organization of course contents, working projects are used to organize knowledge; (6) as to learning style, the working process is designed into a learning process with "learning while doing" as the major learning model.

3.2 *Major Course Development Procedure and Thought Based on "Working Process"*

(1) Determining course goal: The determination of course goal based on the principle of professionalism is mainly reflected in that the course goal is confirmed according to the professional field and possesses professional, regional and industrial characteristics. It's aimed to let students grasp operation skills, service skills or management skills and relevant procedural knowledge that serves it in accordance with differences in regional economic development, level of industrial technological level and basic professional activities of relevant fields.

(2) Determining course contents: In terms of course content selection, the method stresses that contents should be selected based on the integration principle (demand of technological practice). Course contents are closely linked with professional practice and learned skills and knowledge can be directly applied to production, service or management frontlines. Course contents focus on retrieval of direct experience, proficiency in basic professional skills (coordinated operational skills, procedural service skills or standard management skills) and acquisition of closely related procedural knowledge as well as leading roles of standard, value and facts. The integrated training of action skills and wisdom skills required by professional practices is the highlight of course contents; relevant professional

knowledge learning and attitude or training of behavioral models accordingly are basic requirements of course contents.

(3) Confirming the order of course contents: the procedure (difficult points) of course content order and course structure (sequence) should be based on working process (business process). The purpose is to organically integrate procedural knowledge and statement knowledge, technological practice knowledge and technological theory knowledge, that is, combination of "how to do" and "why" knowledge.

(4) Confirming implementation and evaluation of courses: course implementation is a systematic system that includes observation, thinking, action and evaluation. Its essence is systematic and overall reflection of professional activity (working process) planning, implementation and evaluation. In this way, students can "independently retrieve information, formulate plans, carry out and evaluation plans", grasp professional skills and acquire professional knowledge through their "hands-on" practices. The evaluation is not to pursue students' complete physical storage of discipline knowledge but biological command of the complete professional working process. It covers not only professional abilities such as skills and knowledge required by professional practices but also methodology abilities of learning, working skills, strategy and social abilities of making contacts with others and environment in a participatory and critical way, including many aspects such as knowledge and experience, skill and ability, attitude and behaviors.

4 MANAGEMENT COURSE DEVELOPMENT CASE BASED ON "WORKING PROCESS"

Major course development practices based on "working process" are introduced with combination of detailed experience in national model major construction of Shenzhen Polytechnic and the example of logistics management course *Supply Chain Management Practice*.

(1) Determining Course Goal Based on "Professional Core Ability" Orientation

In order to determine the course goal, we held a logistics expert seminar and survey on talent demands of logistics enterprises. We initially learned about the working contents and technical requirements for logistics positions of local logistics enterprises in Shenzhen and large manufacturing enterprises.

(2) Designing "Learning Context" and Determining Course Content and Order Based on Working Process.

In terms of course contents and teaching, we went deep into industrial manufacturers and third-party logistics enterprises and convened expert seminar, had in-depth knowledge of typical working tasks and processes of related logistics positions, let course group teachers determine teaching contents with the guide of course experts, selected teaching cases and teaching projects, and designed teaching steps, teaching methods and student evaluation method.

3. Reforming Course Implementation and Evaluation Method According to Formative Assessment Solution The traditional written examination will be reformed in terms of student performance assessment. It pays more attention to the assessment of professional ability and ability testing. Comprehensive assessment will be concluded pursuant to students' completion of tasks, project implementation and off-campus practices. The all-round student evaluation method based on performance in learning process and results is introduced. Students will have self-evaluation first and then teachers will further assess according to their behavior, performance and learning results. The formative assessment solution is adopted in the course: (1) professional knowledge assessment (written examination) (40%); (2) skill assessment (skill level) (20%); (3) method and ability assessment (ability of making plans or reporting) (20%); (4) professional quality assessment (learning attitude, completion of assignments, class discipline and team, etc.) (10%).

4. Innovating Practices with "Learning with Working" Teaching Model

By reforming the course teaching method, that is, transforming from teacher oriented to student oriented, from student listening to student practicing and experiencing, the innovative "learning with working" teaching model has been initially taken shape: **(1) Project-driven teaching innovation:** Sources of projects **in *Supply Chain Management Practice*** are divided into three categories: enterprise survey project, enterprise consultation project and ERP simulation game project. Enterprise survey project: the project enables students to conduct survey and interviews in representative enterprises of the industry, learn about actual working experience and detailed practice, and share them after studying certain theoretical knowledge based on course knowledge system demands.

(2) Case teaching innovation: Teachers collect cases from practice and instruct students to do so. The more such rich cases, the better. They are important sources for teachers to carry out case teaching and case guiding. Cases include physical items, pictures, texts, audio, video and animation, etc. and are divided into overall cases, partial cases and individual case, etc. Teachers introduce cases of different majors according to different professional knowledge and direct students to collect and sort out case materials during teaching.

(3) Simulated experience teaching innovation: During teaching, students are required to simulate

different roles in varied factories or departments, conduct real surveys, analyze and complete real tasks.

(4) Corporate on-spot teaching innovation: Some teaching steps are executed in offices of logistics enterprises, factories, consultation project teams' studios and industrial exchange meetings so as to let students study in a more vivid way and learn to communicate with frontline technicians, experts and managers, enhance communication skills, expand their vision and flexibly apply what they learn in class.

5 CONCLUSION

"Learning with working" is an important breakthrough point for talent training model reform in higher vocational education, and the "learning with working" teaching model of economic management is the new difficulty and challenge faced by higher vocational schools. Course development is the key step in the "learning with working" teaching reform. The development method based on "working process" provides ideological instruction for us and particularly stresses that course teaching goals, teaching process and teaching actions must respectively orient towards typical professional working ability; aimed towards the working process corresponding to each major's typical professional activities; directed towards working situation corresponding to each major's typical professional activities. Concerning how to develop major courses based on the "working process" philosophy in teaching reform, this paper, based on the detailed experience of national model major construction of Shenzhen Polytechnic, takes the logistics management course *Supply Chain Management Practice* for example and introduces the practices and effects of major course development based on "working process" and the "learning with working" teaching reform. Developing major courses based on "working process" can better highlight the characteristics of "learning with working" teaching model in higher vocational education but course reform itself is a systematic project which entails the reform in many other supporting aspects. Therefore, regarding teachers as subjects and fully motivating frontline teachers' initiative and enthusiasm are the key to teaching reform success.

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