Discussion on the application of “dual-drive” practical teaching mode in application-oriented university

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Abstract: Practice teaching is not only an important link between theory and practice, but also an important way to improve students' social professional quality and employment competitiveness. Under the background of application-oriented university, the reform of practical teaching is imperative. Taking the practical teaching reform of e-commerce major in Guangzhou College of Technology and Business as an example, with years of practical teaching experience and relevant research results, this paper proposes a “dual-drive” practical teaching mode with “PAD class+ extracurricular practice” based on Presentation-Assimilation-Discussion class(PAD).Realize the organic combination of theory teaching, interactive teaching and practice teaching, so as to improve teaching efficiency and teaching quality.

1. Introduction

As opposed to academic universities, application-oriented universities are positioned to cultivate application-oriented talents and serve the needs of China's economic and social development[1].With the rapid development of e-commerce, Internet plus and related industries in China, enterprises are in great need of talents specialized in e-commerce, In particular, China's Bohai region, the Yangtze river delta, the pearl river delta, Guangdong, Hong Kong and Macao greater bay area and other economic reform frontier and e-commerce development core areas, Enterprises need high quality applied talents with broad knowledge, strong practical ability and innovative and entrepreneurial spirit[2].From the perspective of professional ability, practical teaching is based on the employment needs of e-commerce posts, and further establishes the overall goal of professional practical teaching on the basis of in-depth analysis of the theoretical basis, professional quality, operational skills and other requirements of posts[3],Cultivate and strengthen students' practical ability, so as to effectively improve students' professional quality, employment competitiveness and innovation and entrepreneurship ability. It can be seen that practice teaching is an effective way to cultivate application-oriented talents.

PAD class is an innovative teaching mode formally proposed by professor Zhang Xuexin of Fudan university in 2014[4].Its innovation lies in the mode of “Presentation-Assimilation-Discussion”, which divides the teaching time into two parts, with one half for teachers' teaching and the other half for students' autonomous interactive Discussion, The learning of knowledge points is divided into three processes: teacher teaching, student internalization and classroom discussion. PAD class applied Chinese Moderate ideology and culture and skillfully integrated the advantages of western Mooc and Flipped Classroom interactive teaching with the characteristics of Chinese theory teaching[5].It emphasizes the interaction between teachers and students and between students and students, encourages autonomous learning, and effectively solves many problems such as low teaching efficiency, weak learning initiative and low participation rate in traditional “teaching style” indoctrination teaching mode.

Based on the careful study of PAD class teaching mode, this paper proposes a dual-driving practical teaching system of “PAD class+ extracurricular practice”, aiming at the current situation of practical teaching of e-commerce major in Guangzhou College of Technology and Business.To achieve the “theory + interaction + practice” clever integration, improve the teaching effect, improve

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the teaching quality, achieve the teaching goal of training application-oriented talents.

2. The main problems existing in the practice teaching of relevant courses of e-commerce specialty

2.1 Practice teaching and e-commerce industry and post demand derailed

The training of applied talents should aim at serving economic development and social demand. According to the 2017 annual survey report on China's e-commerce talents released by the e-commerce research center,83% of enterprises think that colleges and universities need to strengthen practical teaching to cultivate e-commerce talents, and more than 50% of enterprises think that colleges and universities need to strengthen the connection between colleges and enterprises and professional quality education[6].Although colleges and universities pay more and more attention to practical teaching and constantly increase the strength and support of practical teaching, generally speaking, students' practical ability is weak and the effect of practical teaching is not obvious. This shows that the reform of practical teaching in schools is not strong enough, the connotation of practical teaching is not high enough in relation to the industry, and the cultivation of talents in practical teaching does not meet the needs of actual posts.

2.2 The proportion of basic theory course and professional practice course is out of balance

E-commerce major and related courses focus more on the practical application of computer technology and enterprise business operation and management, and are also practical courses based on the needs of social business[7].From the perspective of job demand and talent cultivation, the course design of e-commerce major should focus on practical and practical courses. However, in the actual arrangement, there are too many theoretical courses, and the proportion of practical courses is low. This is because talent training and curriculum arrangement in universities are often carried out under the established framework of the ministry of education and the university.The four-year college courses include general education courses, elective courses, basic courses and core courses. Under the requirement of constant total credit and credit hours, a large number of prescribed general education and theory courses inevitably occupy the total credit hours and credit hours of professional practical courses. As a result, the practical teaching demand is out of line with the course offering ratio, and the limited practical operation courses cannot meet the demand of application-oriented personnel training.

2.3 The content design of professional practice courses is not scientific

At present, the practice teaching of e-commerce major in application-oriented universities is generally lack of systematic design and overall planning, with more theoretical class hours and less practical class hours[3].Such as “network marketing”, “web design and production”, “network technology”, “electronic payment”, “network advertising design and production”, “database design and application”, “website construction and management” and other professional courses.These specialized courses are highly practical courses, but in the specific class schedule, the practical class hours are less than one third of the theoretical class hours.It is difficult to combine theory and practice with the class schedule of “emphasizing theory but neglecting practice”.As a result, it is difficult to achieve the expected teaching effect of cultivating students' practical ability.Students learn passively from too much theoretical indoctrination, so that they can't make web pages, design online advertisements, and operate and maintain simple e-commerce websites. Therefore, talent cultivation is in an awkward situation where it has goals but cannot be achieved.

2.4 Teachers are weak in practical operation

The knowledge level and practical teaching ability of full-time teachers directly determine the effect of practical teaching and the quality of talent cultivation Full-time teachers in application-oriented universities should always stand at the forefront of market application and discipline research, and have not only rich and in-depth theoretical knowledge, but also strong practical

operational skills. However, the actual phenomenon is that the full-time teachers in colleges and universities generally lack rich working experience of enterprises and solid practical ability. The teaching process is still dominated by traditional “teaching style” theory teaching[8].The teaching and guidance of full-time teachers are lack of professionalism and practicality, and the cultivation of students' practical ability is naturally very limited.

2.5 The enthusiasm of students to participate in practice is not high

The implementation of practical teaching first needs to carry out the transformation of teaching subject. In this model, the teacher is the assistant of learning, and the student is the object and leading role of practical teaching. In order to ensure the effect of practice teaching, we must insist on students as the main teachers, fully mobilize students' subjective initiative, and motivate students to highly interact and participate. However, due to the lack of careful design of practical scenarios and operational links, the so-called simulated practical projects are often formalized and cannot fully connect with the real business of enterprises. In addition, due to the limitations of various e-commerce platforms and teaching equipment, it is difficult for students to actively participate in practical projects, resulting in poor practical teaching effect.

3. Design of dual - drive teaching system

Based on the above analysis of the current situation and problems of practical teaching of e-commerce major and related courses in application-oriented universities, in order to better solve the existing problems, the construction of practical teaching system needs to be more scientific and reasonable. Compared with the previous practical teaching design, the design of “dual-drive” practical teaching system can better realize the integration of “theory + interaction + practice”, and solve the problems existing in the existing teaching practice. The “dual-drive” practical teaching system is composed of “one goal, two modules and Six assessments”. The specific construction ideas are as shown in figure 1.

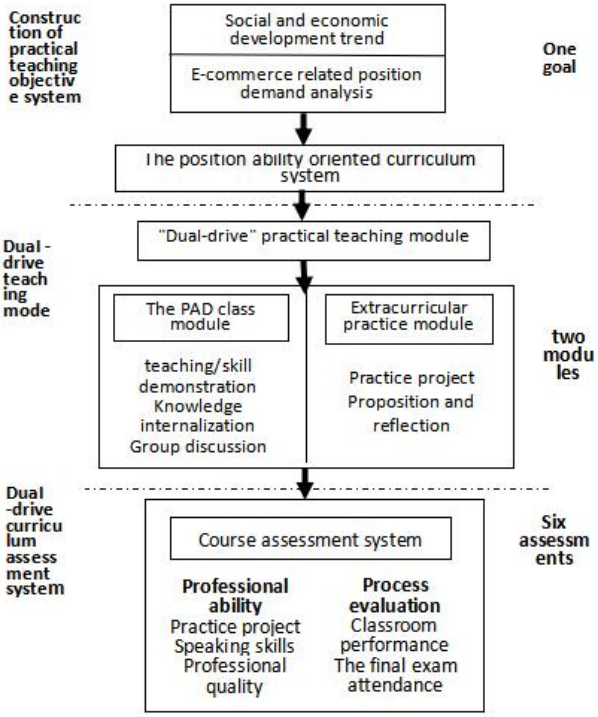

Fig. 1. The construction of dual-driving practical teaching system for e-commerce majors in application-oriented universities

3.1 One goal

“One goal” refers to the construction of professional practice curriculum system with the general

goal of cultivating application-oriented talents and strengthening post capacity. The construction of practical course teaching system of e-commerce specialty should first meet the requirements of social economy, especially the development of network economy and related industries. Focus on the goal of cultivating application-oriented talents and transform the course system oriented to theoretical knowledge into one oriented to post capacity. Realize the seamless connection between teaching content and professional skills training and the demand of e-commerce industry and posts. Therefore, relevant teaching departments should first fully grasp the trend of social and economic development, and conduct comprehensive and in-depth analysis of the e-commerce industry and related post groups. On this basis, a practical curriculum system corresponding to employment posts (groups) is constructed. In addition, each practical course must combine the skill characteristics of different positions and further refine the practical teaching content into a sub-project integrating "theoretical knowledge + professional ability and accomplishment + practical operation skills".

3.2 Two modules

"Two-module" refers to the dual-driving practical teaching mode of "PAD class module + extracurricular practice module". In the PAD class module, a complete course will be divided into several teaching units according to different knowledge and practical contents. Each complete teaching unit is further systematically divided into three closely linked links: knowledge teaching and skill demonstration, knowledge internalization and group discussion.

The first part divides the teaching content into theoretical teaching and practical teaching. In the aspect of theoretical teaching, teachers use the guidance teaching method to sort out and elaborate the theoretical knowledge of this unit, emphasizing sufficient but not excessive guidance. In terms of practical operation teaching, the teacher will explain the specific operation requirements, key points and procedures according to the practical operation project of the unit, and conduct on-site demonstration operation. The second part, students' independent study and internalization. This section emphasizes students' independent thinking and operation, encourages students to use various learning tools to consult materials and conduct preliminary practical exercises, and promotes students to transform what they teach into their own knowledge and ability, and constantly finds and raises problems in the process. The third part, group discussion and teacher answer questions. Students are randomly grouped first, and then interactively discuss the problems, difficulties and puzzles found in the previous section, so as to solve low-level problems and extract difficult problems. Finally, the teacher will summarize the discussion results of all groups, refine high-level questions, and answer questions. Three links link to each other, forming a student-led teaching model supplemented by teachers. The teacher-led teaching means can fully mobilize students' enthusiasm and subjective initiative and improve students' thinking ability. The interactive discussion exercises students' ability of expression, judgment and teamwork.

Extracurricular practice module is divided into practice project, proposition and reflection. There are two methods for practical projects. The first is to introduce real enterprise projects into the curriculum system by relying on the school-enterprise cooperation platform. Students can directly contact real enterprise projects in their spare time and strengthen their actual fighting skills during the completion of projects. This method can not only promote the integration and innovation between schools and enterprises, realize the collaboration between production, learning, research and application, but also help to mobilize the resource advantages of schools and enterprises, form an open collaborative education system, and link curriculum with social economy and job requirements. The second is the simulated practical operation project, which transforms the post skills into several specific work tasks through careful simulation scenario design, so as to realize the seamless connection between the practical operation skills training and the post requirements of the enterprise. In addition, this method can also make up for the shortcomings of the school in school-enterprise cooperation projects and the imperfect construction of practical training bases inside and outside the school, and form a practical teaching mode of "in-class skill operation + after-class simulation training". In the part of proposition and reflection, teachers set appropriate and exploratory discussion topics or homework after class to help students deeply understand the

teaching content, further expand students' thinking mode, stimulate students' enthusiasm for independent learning, and further promote the transformation of students from passive learning to active learning.

3.3 Six assessments

"Six assessments" means that the assessment of practical teaching consists of two major parts: vocational ability and process evaluation, among which the assessment of vocational ability is divided into three elements: the completion of practical projects, practical operational skills and professional qualities. Process evaluation consists of three elements: classroom performance, final assessment, and class situation. The proportion of the six assessment elements can be freely adjusted according to the characteristics of the course and the actual needs. Vocational ability is an important reflection of students' ability to better meet the needs of the society and the job. The course assessment not only takes the actual situation of students' participation in real enterprise projects and the practical skills reflected in the process as an important assessment point, but also includes the enterprise evaluation mechanism, professional ethics, professional spirit, etc. The purpose is to more fully and reasonably evaluate the post holding ability of students from the perspective of enterprises, encourage students to continuously strengthen the exercise of professional ability in course learning, and promote the coordinated development of students' knowledge, skills and professional quality. Dual-drive practical teaching abandons the old assessment method of "one test determines the result" and emphasizes the importance of process learning. Teachers pay attention to students' classroom performance in each teaching unit, and take students' participation in self-help discussion, breadth and depth of answering questions, creative thinking and other aspects as evaluation factors of process assessment. In addition, dual-drive practical teaching flexibly takes project making, achievement report, experiment design and skill display as the methods of final assessment. In order to expand students' scope of knowledge and cultivate their practical application and innovation and entrepreneurship ability, the assessment will also set up additional points programs. Encourage students to get more contact with social activities related to subjects, participate in social practices, innovation and entrepreneurship competitions, etc., and encourage students to use what they have learned to solve practical problems.

4. Countermeasures to improve the teaching effect of dual-drive practical teaching model

4.1 To build a practical teaching system in line with the needs of e-commerce industry and posts

To meet the social needs, serve the market economy and industry development is the goal of application-oriented university personnel training. The essence of "dual-drive" practical teaching mode is a method and tool of talent cultivation, whose purpose is to systematically cultivate students, effectively improve students' practical operation ability, and finally cultivate application-oriented talents matched with the society and industry.为此,Education departments should fully investigate the market demand to ensure that all courses offered are connected with the market, industry, job positions and the latest technology. Finally, a market-oriented curriculum system that serves the regional economy and conforms to its own school-running characteristics will be formed.

4.2 Optimize the setting of practical subjects and practical hours

The quality of practical teaching is directly related to the scientific and reasonable setting of practical teaching subjects and hours. To be specific, on the one hand, all practical subjects should be clear about their relationship between the past and the future, difficulty and dynamic development. Overall consideration is given to the subject setting and content of practical teaching, so that all courses follow the objective teaching rules from simple to complex, from single to comprehensive, and from low level to high level[9].On the other hand, attention should be paid to the optimization of practical class hours of each subject, so that all practical teaching links correspond to specific work tasks and practical skills, and ensure that the practical class hours of all practical subjects can meet

the needs of practical skills training.

4.3 Strengthen the construction of experimental and training bases inside and outside the school

E-commerce and related industry posts are in rapid social development. The development of modern Internet and computer technology, such as modern information industry, 5G, big data, Internet +, block chain, Internet of things, new media technology, has a profound impact on enterprise business application and market activities. Therefore, e-commerce practice courses should follow the latest application technology in the market and integrate new content, new technology and new methods into practical teaching. It is not only necessary to update the software and hardware of the campus practice teaching base, but also to strengthen the construction of the inside and outside of the campus practice training base. The cooperation platform between schools and enterprises should be used to deepen the integration of industry and education between schools and enterprises and promote the effective transformation of industry, learning, research and application.

4.4 Establish a high-level team of practical teaching teachers

Teachers' practical teaching ability directly affects the teaching effect and the quality of talent cultivation[10].There are two solutions to the problem of weak practical teaching ability of teachers' teams in application-oriented universities: First, to strengthen the practical teaching ability of existing teachers, improve the practical ability and professional level of teachers' team by means of post practice, post training in various enterprises, participation in enterprise production, scientific research and professional technical service. The second is to hire enterprise experts, senior technicians, professional managers and other professionals with front-line work experience in the industry to serve as professional consultants, and directly participate in the practical teaching and professional construction by offering special lectures, participating in practical project guidance, and serving as course lecturers.

5. Conclusion

The dual-driving practical teaching mode refers to the practical teaching system of “PAD class+ extracurricular practice”. The advantage of this teaching system is that it integrates the advantages of PAD class on the basis of practical teaching theory, takes the cultivation of application-oriented talents as the starting point, and organically combines theoretical teaching, interactive teaching and practical teaching. The dual-drive practical teaching mode is in line with the reality of practical teaching in application-oriented universities and the law of knowledge acquisition and cognitive psychology of contemporary college students. This mode can not only transfer knowledge and skills, mobilize students' learning enthusiasm, help students internalize relevant theories and knowledge, and further transform knowledge into skills. It can also get rid of all kinds of difficulties in practical teaching in China's universities, improve the specialty, pertinence and scientificity of practical teaching, and finally cultivate more application-oriented talents in line with the needs of social economy and industrial development.

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