

Research on Formulating the Scope of Recognition and the Replacement Criteria for Innovation Credits of E-commerce Major in Independent Colleges

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Keywords: Innovation Credit, Independent Colleges, E-commerce, Teaching System

Abstract: The demand for corresponding professionals has also increased greatly with the rapid development of e-commerce industry. How to cultivate applied and compound e-commerce talents with strong practical ability has become an important goal of teaching reform in colleges and universities. Innovation credit, as an innovation and supplement of credit system, is an important development direction of the teaching reform of e-commerce major in independent colleges. The goal of cultivating more talents with employment competitiveness can be achieved by formulating the scope of recognition, the principle of identification and the replacement criteria for innovation credits, and establishing a scientific and rational innovation credit teaching system, combined with the actual schooling and personnel training programs.

1. Introduction

According to data from the China E-Commerce Research Center(2018, China E-Commerce Research Center), as of December 2017, 84% of China's e-commerce enterprises have insufficient talents, and over 40% of them have large-scale recruitment plans. According to the Survey Report on E-commerce Talents in China in 2017 released by the Center, e-commerce is a practical and highly applicable specialty. Relatively speaking, its requirement for academic qualifications is not very high, and enterprises are more concerned about the learning ability, sense of responsibility and business ability of employees. Therefore, how to cultivate applied and compound e-commerce talents with strong practical ability has become an important goal of the teaching reform of e-commerce major in China's colleges and universities.

As an important part of China's higher education system, the independent college also plays an important role in cultivating e-commerce talents. According to the latest statistics of the Ministry of Education of the People's Republic of China(2018, Ministry of Education of the People's Republic of China), there are 265 independent colleges currently. From the enrollment major in 2018, 84 of the 265 independent colleges have set up e-commerce major at undergraduate level and 13 have set up e-commerce major at specialized level. In order to highlight the major features and improve the competitiveness of employment, some independent colleges have also set up the direction of logistics management, system development and construction, website operation and so on based on e-commerce major.

In the early stage of development, most independent colleges carried out the credit system with the maternal colleges and universities. They directly transplanted or emulated the models and methods of the maternal school in the e-commerce talent training program, and did not take into account their own current situation and talent training objectives. The talents cultivated were difficult to adapt to the needs of the market.

During the transition from independent colleges to applied universities, some experts and scholars encouraged independent colleges to actively reform the credit system, attach importance to students' innovation and entrepreneurial ability, introduce innovation credits, and establish a credit management system that is appropriate to them as an innovation and supplement to the credit

system. For example, Qi Sun(2018, Qi Sun) emphasized that the innovation of credit system can enhance students' ability of innovation and entrepreneurship, and proposed to establish a special counseling system for entrepreneurial tutors. Liang Dai,Yan Liu,Zhong Zhang,and Ting Gong(2018, Liang Dai,Yan Liu,Zhong Zhang,Ting Gong,)put forward the requirements, certification standards, certification procedures, records and application procedures for innovation credits. Yiwen Gong (2018, Yiwen Gong) held that in order to achieve a breakthrough in credit recognition and develop international exchanges among students, it is necessary to change the traditional concept of mutual acceptance of credit based on learning content, focus on learning outcomes, and pay more attention to the complementary effect of general ability and general academic ability on professional accomplishment.

However, the above viewpoints are more suitable for ordinary colleges and universities instead of the e-commerce major in the independent colleges. In terms of theoretical research, the academic community is still in its infancy in the research on the scope and replacement standards of innovation credits for independent colleges. Therefore, it is helpful to cultivate e-commerce talents with more employment competitiveness to establish a scientific and reasonable credit teaching system by formulating the scope, principles and replacement standards of innovation credits for e-commerce majors in independent colleges.

2. The current situation of innovation credit teaching system

Innovation credits are credits obtained by full-time undergraduates through application and confirmation after they have participated in scientific research, social practice and other activities and achieved certain innovative results in addition to the credits required in the personnel training program. Innovation credits are of great significance to enhance the students' employment competitiveness, standardize the innovative activities out of the training program, promote the transformation of independent colleges into applied universities, and promote the construction of "double-qualified" teachers.

According to incomplete statistics, more than 500 undergraduate colleges and universities in China have implemented innovation credit teaching system, accounting for more than 70% of the undergraduate colleges and universities throughout the country, and there is a trend to continue to increase. Some public universities have even made mandatory provisions requiring each undergraduate graduate to obtain at least three innovation credits in addition to the minimum credits stipulated in the teaching plan during the school study period, and to count the innovation credits into the total graduation credits and achievement files of the students. But most independent colleges do not mandate that students must earn innovation credits, but encourage students to participate in appropriate innovation activities. Innovation credits in independent colleges are generally operated with the credit recognition and replacement system, that is, the innovation credits and in-class curriculum credit mutual recognition system is implemented. The in-class curriculum is the required course for the professional training program for students. Students can apply for the recognition of innovation credits they received as in-class course credits, so that they can be exempted from the required course of the professional training program after being approved by the administrative management department.

3. The recognition scope of innovation credits for e-commerce major in independent colleges

The key to the implementation of innovation credits is to clarify the scope of the innovation credits and the criteria for identification. Taking e-commerce as an example, innovation credits are generally obtained through professional competitions, scientific research projects, professional qualifications, patent and software copyrights, social practices, academic papers, MOOCs, and other college mutual recognition courses.

3.1 Professional Competitions

Relying on the application of Internet + in various industries, there are more and more

professional competitions related to e-commerce, such as national level competitions, National Undergraduate E-commerce "Innovation, Creativity and Entrepreneurship" Challenge, and National Undergraduate Mathematical Contest in Modeling, provincial-level competitions such as the Guangdong E-Commerce Professional Skills Competition, the "I'm Counting" Guangdong University Students' Big Data Application Innovation Competition, and the Zhejiang University Student E-Commerce Competition. In addition, there are also competitions organized by local industry associations, enterprises and universities, such as the "UFIDA Cup" National College Students Entrepreneurship Design and Sand Table Simulated Business Competition, "Golden Butterfly Cup" National College Students Entrepreneurship Competition and Sand Table Competition, "Minxue Cup" Cross-border E-commerce Innovation Practice Competition, "Yimu Cup" Supply Chain Operation and Management Innovation Competition, etc. Each independent college can set the corresponding innovation credits and scores for the students' participation and the rankings according to their own actual schooling.

3.2 Scientific Research Project

The scientific research projects suitable for college students generally include the "Innovation and Entrepreneurship Training Program for College Students" (hereinafter referred to as the "IETPCS"), which is a project for undergraduates set up by the competent department of education. It is also one of the key construction projects of undergraduate teaching quality and teaching reform projects in colleges and universities, including innovative training programs, entrepreneurship training programs, and entrepreneurial practice projects(2012,Ministry of Education of the People's Republic of China). The IETPCS can be divided into national and provincial levels. Each year, the competent authorities allocate the indicators of each independent college according to the proportion of its school-running scale. Generally, there are 2-5 national-level indicators and 10-30 provincial-level indicators. In principle, each project requires 3-5 students to form a team and one tutor to guide. After the project has been declared, opened and completed, different acceptance results are given according to the completion of the project and the results of innovation and practicality, generally excellent, unqualified, unqualified after revising and unqualified. Independent colleges can set up corresponding innovation credits and grades according to the level of the IETPCS and final acceptance results. Of course, some school-enterprise cooperation projects or school-level project innovation credits can also refer to the settings of the IETPCS.

3.3 Professional Qualifications

At present, the professional qualification certificates related to e-commerce majors, suitable for undergraduates and recognized by the state and enterprises are: e-commerce specialist (member level, master level) e-commerce designer (intermediate) professional qualification certificate after passing the national computer technology and software professional and technical qualification examination, while the former emphasizes the evaluation of e-commerce actual operations and applications and the latter focuses on the evaluation of e-commerce website planning and design. If the e-commerce major set by the independent college is more inclined to system development, students can also obtain the National Computer Technology and Software Professional Technical Qualifications and other certificates of the National Computer High-tech Examination. If the e-commerce major of the college is more focused on business operation management, students can obtain the professional certifications of economist (primary) after taking the national economic professional qualification examination and international business documentation specialist, logistics manager, senior marketer. The independent college can use the certificate level and the scores obtained by the students as the basis for the identification of innovation credits.

3.4 Patent and Software Copyrights

Due to its own characteristics, the e-commerce industry is closely related to computer technology, information management and information systems, network technology, supply chain management, and customer relationship management. In the process of participating in e-commerce research activities, students may apply for corresponding patents or software copyrights for some

innovative solutions, new methods of technological improvement and appearance design. For example, the transaction process, operation mode, development of APP software and design of new QR code of e-commerce have been improved. At present, there are a few students in independent colleges who are actually involved in patent and software copyright application activities. Most of them do not know enough about the patent law and related intellectual property laws and regulations, and lack sufficient intellectual property awareness. Independent colleges set corresponding innovation credits for patents and software copyrights, which can improve students' sense of innovation and enthusiasm for patent and software copyright applications to a certain extent.

3.5 Social Practices

Students can take part in social practice according to their own specialty during their vacations or other spare time, such as taking advantage of e-commerce specialty to participate in the "Volunteer Activities for the Country People", investigating rural agricultural products e-commerce, helping farmers to generate income by selling agricultural products, and participating in post-holding exercises or other extracurricular entrepreneurial activities in enterprises, which is of great importance for college students to deepen their professional understanding and confirm their own careers, prepare for the transition to the workplace and enhance their competitive advantages in employment. Because of the rich form and content of social practice, independent colleges can set up corresponding innovation credits combined with the characteristics of e-commerce major, and then identify the credit for content and completion of students' participation in social practice. It should be noted that the graduation internship during the senior year is a compulsory course in the talent training program. Students should participate in the professional practice according to the arrangement of the college, and can no longer apply for corresponding innovation credits.

3.6 Academic Papers

Achievements obtained by students through the above-mentioned professional competitions, scientific research projects, patents and copyrights, and social practices can be published in publications recognized by the General Administration of Press and Publication of China through papers. Independent colleges can set up corresponding innovation credits according to the publication grades of papers, such as SCI or EI retrieval journals, core journals, Provincial Academic Journals and so on, and determine the in-class courses that replace the credits according to the content of the papers. It should be noted that the graduation design/paper is an important teaching link to achieve the training objectives of the undergraduate stage. It is a compulsory course within the talent training program and cannot apply for corresponding innovation credits.

3.7 MOOCs and other College Mutual Recognition Courses

MOOC is a large open network course. At present, there are abundant MOOC teaching resources on the Internet, such as MOOC China (mooc. cn), MOOC College (mooc. guokr. com), China University MOOC (icourse163. org) and so on. Students can study on the Internet learning platform or mobile phone APP client. Independent colleges can set up corresponding innovation credits and grades according to students' learning content, hours, credits and grades. In addition, innovation credits and grades can be offered to students at institutions that have signed cooperative educational agreements with their independent colleges.

4. The principle of identifying innovation credits for e-commerce majors in independent colleges

After the independent college has determined the scope of innovation credit for e-commerce major, it should follow the corresponding principles of identification and replacement of innovation credit. Examples are as follows:

First, the content, class hours and credits of applying for innovation credits should be similar to the in-class courses required in the e-commerce professional training program, which can achieve

the teaching objectives of the in-class courses.

Second, if the content, hours and credits of the innovation credits obtained by the students are not related to the basic courses and specialized courses of the e-commerce professional personnel training program, they can only apply for the elective courses within the course of mutual recognition.

Third, students may apply for mutual recognition of the corresponding courses after examining courses studied on the Internet learning platform or at institutions that have signed agreements to cooperate with college.

Fourth, the vocational qualification certificate and professional competition rank obtained by students should be recognized by the relevant departments of the state or industry, and shall be professional and authoritative, and achieve the corresponding teaching objectives of in-class courses, before they can be regarded as corresponding in-class courses.

Fifth, academic papers by students should be officially published in journals with publicly recognized ISSN (CN or CSSCI, etc.), and all unpublished papers are not included in the identification scope of innovation credits.

Sixth, for other forms of innovation credits obtained by students, they can be recognized as corresponding in-class courses after they have achieved the objectives of the in-class curriculum and have been reviewed and approved by the teaching and research department, department (faculty) and academic management department.

And last, students who apply for innovation credits should provide relevant documents, such as application forms for scientific research projects, patent licensing certificates, professional competition award certificates, journals where academic papers are published, MOOC valid transcripts and other original documents, so that the college educational administration departments can evaluate the authenticity of the results.

5. Replacement criteria of innovation credits for e-commerce majors in independent colleges

The replacement criteria of innovation credits for e-commerce majors in independent colleges can be formulated referring to appendix Table 1.

6. Replacement procedures of innovation credits for e-commerce majors in independent colleges

Independent colleges must also have clear procedures and requirements for the application, examination, confirmation and replacement of innovation credits after determining the scope and principles of the identification of innovation credits. After the students have obtained the corresponding grade, professional qualification certificate or MOOC valid transcript, they should fill in the Application Form for Mutual Recognition of Students' Extracurricular and Intra-curricular Curriculum and apply for the corresponding in-class curriculum credits from the secondary college (department) and the office of academic affairs. After checking and approving the "Mutual Recognition of Extracurricular and Intra-curricular Curriculum Checklist", the secondary college (department) and the office of academic affairs confirm that the students will be exempted from the course if they get credit for the in-class curriculum.

For example, if a student passes the National Computer Technology and Software Professional Technical Qualifications Intermediate-Level E-Commerce Designer Examination listed above and gets the corresponding professional qualification certificate, then the Introduction to E-Commerce corresponding to the certificate can be exempted. The educational administration department may determine that the student has received 64 hours and 4 credits of the compulsory course Introduction to E-Commerce with a total score of 90 points. If a student has already studied the course Introduction to E-Commerce, but the total score is less than 90 points at that time, and then he has taken the Intermediate E-Commerce Designer Professional Qualification Certificate, then the student can also apply to the educational administration department to amend the score of Introduction to E-Commerce to 90 points. If a student has taken the course Introduction to E-

Commerce and the total score is higher than 90, he can apply to the educational administration department for other similar courses or any public elective course with a total score of 90, and get corresponding hours and credits.

Table 1 Replacement criteria for innovation credit courses and in-class courses

Innovation Credit Courses	In-class Courses	Remarks
Challenge Cup Series Competition (each participant can only substitute one course corresponding to the winning prize for each competition) Hours:64 Credits:4	Depending on the specific contents, one can be replaced by a practical training course or a specialized course (specifically approved by the academic committee). Hours:64 Maximum Credits:4	First prize in national competition: 100 points Second prize: 95 points Third prize: 90 points First prize in Guangdong and above: 95 points Second prize:90 points Third prize: 85 points Excellence Award: 80 points
Innovation and Entrepreneurship Competition (each participant can only substitute one course corresponding to the winning prize for each competition) Hours:48 Credits:3	Depending on the specific contents, one can be replaced by a practical training course or a specialized course (specifically approved by the academic committee). Hours:48 Maximum Credits:3	First prize in national competition: 100 points Second prize: 95 points Third prize: 90 points First prize in Guangdong and above: 95 points Second prize:90 points Third prize: 85 points Excellence Award: 80 points
National computer technology and software professional technical qualification intermediate e-commerce DESIGNER Hours:64 Credits:4	Introduction to E-commerce , Systems Analysis and Design or E-commerce Practical Training Hours: 1week or 64 hours Maximum Credits:4	Performance point: 95 points
Publication of academic papers (newspapers and magazines with unified publication numbers at home and abroad), patents and software copyright Hours:32 Credits:2	Depending on the specific contents, one can be replaced by a practical training course or a specialized course (specifically approved by the academic committee). Hours: 1week or 32 hours Maximum Credits:2	Paper performance point: 90 points Patent and software copyright performance point: 95 points
E-commerce, Supply Chain Management or Logistics Virtual Operation Competition (each participant can only substitute one course corresponding to the winning prize for each competition) Hours:64 Credits:4	SCM,ERP,MIS,CRM,ERP sand table operation or ERP training Hours: 1week or 48 hours Maximum Credits:3	First prize in national competition: 100 points Second prize: 95 points Third prize: 90 points First prize in Guangdong and above: 95 points Second prize:90 points Third prize: 85 points Excellence Award: 80 points
Sino foreign cooperation projects SAP special class Hours:64 Credits:4	ERP or ERP TRAINING Hours: 1week or 64 hours Maximum Credits:4	Performance point: 90 points
Participating in college students' innovation and entrepreneurship training project Hours:64 Credits:4	Depending on the specific contents, one can be replaced by a practical training course or a specialized course (specifically approved by the academic committee). Hours: 1week or 32 hours Maximum Credits:2	Passing the check before acceptance at provincial level: 85 points Passing the check before acceptance at provincial level as excellent: 90 points Passing the check before acceptance at national level: 90 points Passing the check before acceptance at national level as excellent: 95 points
Entrepreneurship Hours:32 Credits:2	E-commerce innovation or entrepreneurship courses or replacing a relevant training course or elective course depending on the specific entrepreneurial content Hours: 1week or 32 hours Maximum Credits:2	Having a business license and operating for more than one year (Performance point: 90points)
Going to the college-enterprise cooperation unit that signed the agreement to work Hours:32 Credits:2	Depending on the specific contents, one can be replaced by a practical training course or a specialized course (Only for junior students,and specifically approved by the academic committee). Hours: 1week or 32 hours Maximum Credits:2	Approved by the college and the enterprise (Performance point: 90points)

7. Conclusions

The innovation credit teaching system in independent colleges closely combines students' own interests and professional expertise, enhances students' innovative ability, improves the professional level of teachers, and improves the overall competitiveness of the entire college. Independent colleges should, according to their own schooling practice, highlight their professional characteristics, and further improve the innovation credit teaching system in combination with the talent training program, so that the innovation credit teaching system can better promote the transformation of independent colleges to applied universities, and cultivate talents who are competitive in employment and will be able to adapt to the needs of market development in the future.

Acknowledgements

Thank you for the grant of the 2016 Guangdong Higher Education Teaching Research and Reform Project "Teaching Management Research of E-commerce Practice Base (No. 27162)"

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