



Application of Modern Geographic Information Technology in Classroom Education and Management of International Economic and Trade Geography

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Abstract. As an interdisciplinary subject of international trade and geography, there are some problems in the education of the course of international trade geography, such as emphasizing theory over practice in the teaching method, limiting the multi-disciplinary knowledge reserve of teachers, rapid evolution of foreign trade pattern and slow updating of teaching contents, which are difficult to guarantee the teaching quality and not conducive to the cultivation of foreign trade talents in China. By introducing the international trade geography laboratory, the teaching quality can be improved in many aspects, such as promoting teachers' initiative in teaching, improving students' subjectivity in learning, creating a high-quality and convenient scientific research environment, and facilitating students to actively enter enterprises for practical training, so as to help the discipline construction of international trade geography.

Keywords: Modern geographic information technology · Practical education · Laboratory construction

1 Introduction

With the in-depth promotion of the Belt and Road initiative and the formal implementation of the regional comprehensive economic partnership agreement, the global economic pattern has accelerated its evolution, and international trade has kept pace with changes in the external environment. The development of international trade is closely related to the natural environment and the human environment. The continuous evolution of the geographical environment affects the spatial pattern of international trade activities. International Economic and trade geography is an interdisciplinary subject of international trade and geographical research. It not only has the spatial characteristics of regional type and difference in geography, but also has the dynamic and social characteristics of economic and trade discipline [1]. It focuses on analyzing the trade formation, trade structure and evolution law of different market entities from the perspective of national or regional geographical location. For example, the economic geographical

change path based on density, distance and division will cause changes in trade efficiency while reshaping the global trade pattern. In a study on the influencing factors of trade efficiency between China and RCEP partner countries, it is found that geographical distance has a significant negative impact on China's import and export, and having a common border hinders China's import [2]. The traditional teaching mode mainly focuses on theory teaching, and the main content is to study the international division of labor, geographical distribution and geographical exchange of commodity production in major international and regional regions of the world, so that students can understand and master the methods of international trade analysis. However, the black swan events of global development are frequent, the geo economy is developing rapidly, and the foreign trade policies of countries around the world are changing. The traditional theory teaching content can not quickly capture this change, and students can not effectively combine the knowledge they have learned with life practice, which seriously affects the teaching effect. Therefore, it is necessary to strengthen the practice link while imparting theory. With the help of professional geographic information platform, introducing geographic information technology and building international economic and trade geographic laboratory have become an important trend, which is helpful to effectively meet the needs of foreign trade enterprises for composite talents.

2 Problems in the Teaching of International Economic and Trade Geography

2.1 Under the Traditional Teaching Mode, the Student's Practice Link is Missing, and the New Goal of Curriculum Ideological and Political Education Cannot Be Realized

Practical learning can promote students to find out and make up for their own knowledge, deepen and strengthen their understanding of relevant theoretical knowledge, and better integrate theory with practice. International Economic and trade geography is a highly practical course for the major of international economy and trade. It is designed to meet the needs of the practical work of international economy and trade under the new situation and reflect the new problems and hot spots in the current economic and trade development. In addition to the basic knowledge objectives, it also requires students to develop the ability to comprehensively apply knowledge, systematically discover problems. The ability to analyze and solve problems, and the ability to learn and explore independently. However, unlike courses such as international trade theory and practice, foreign trade documents and business correspondence, which have special laboratories and practical training links, traditional theoretical teaching can only be adopted. This mode allows students to learn passively and lacks practical teaching links, which deviates from the ability objective of curriculum thinking and politics in the new era.

2.2 Lack of Teachers' Practical Experience and Geographical Professional Knowledge and Practical Teaching Ability

In terms of course design of international economic and trade geography, most of the lecturers are teachers majoring in international economics and trade. Their main research

direction is the field of economic and trade. On the one hand, most of the teachers have a high level of international trade theory teaching, but they are not very familiar with the practical business practices in international trade, and their actual business operation ability is insufficient. It is difficult to meet the needs of practical teaching, and it is easy to deviate from the actual teaching. On the other hand, some teachers lack professional knowledge of geography, and cannot effectively integrate international trade knowledge and geographical knowledge, resulting in the phenomenon of light trade and weak geography in the teaching process, which can not achieve the expected teaching effect. Furthermore, due to the strong spatial and temporal nature of the geographical pattern evolution, in the actual teaching, even if teachers can teach relevant knowledge, the traditional teaching methods cannot be effectively displayed, and the lack of mastery and utilization of advanced teaching technology tools has become a major obstacle.

2.3 The Updating Speed of the Teaching Materials is Slow, and It is Difficult to Keep Up with the Changing Speed of the International Trade Pattern Relying on the Teaching Materials

Generally speaking, the publication of teaching materials needs to go through such processes as the formulation of syllabus, content preparation, contact publication, review and revision. The cycle is about 3–6 months, requiring a large amount of human and material resources. Based on economic considerations, university teachers generally lack the power to update the content of teaching materials, resulting in a slow pace of updating the content of teaching materials. Due to the rapid changes in the international trade pattern, the contents of the teaching materials are often outdated and lag far behind the actual situation of the existing international trade. Through the teaching materials, the students can be taught classical theoretical knowledge, but can not track this dynamic, and can not systematically grasp the latest international trade geographical pattern, which seriously affects the adaptability of students to solve practical problems with advanced technology. In the new era, the international economic and trade geography curriculum emphasizes the integration of theory with practice. The traditional teaching mode of relying only on textbooks is difficult to sustain. It is urgent to introduce new technical means that can reflect the evolution of geography and trade pattern in real time as an effective supplement.

3 The Application of Modern Geographic Information Technology to the Improvement of International Economic and Trade Geography Classroom Education

From the above research, it can be seen that there are many deficiencies in the traditional teaching mode of international economic and trade geography, which seriously restricts the achievement of teaching objectives. Therefore, it is urgent to strengthen the teaching practice link to make up for it, and the construction of laboratories plays an important role in cultivating students' practical ability by providing a good practice environment. Relevant studies suggest that the construction of liberal arts laboratories in Colleges and

universities should promote the construction of “infrastructure” of structured data platforms, improve the dynamic and interactive adaptability of the laboratories, and improve the evidence-based chain support from simulation experiments to results verification and application [3]. Next, with the introduction of the sky geographic information platform, this paper explains the improvement brought by the construction of the international economic and trade geography laboratory from the aspects of teaching, learning and research.

3.1 More Vivid “Teaching” – Promoting Teachers’ Initiative in Teaching

The introduction of international economic and trade geography laboratory is to promote the reform of teaching mode. Traditional economic and trade geography pays attention to the explicit knowledge expressed in language and writing, but neglects the edification of cultural atmosphere and the cultivation of students’ internal quality. These tacit knowledge happens to be mastered by students in the ideological and political course. The introduction of geographic information experimental application platform, the construction of corresponding geographic information database and the preparation of corresponding experimental links can effectively integrate the system with classroom knowledge, achieve the goals of intuitive teaching, simulation demonstration and strengthening knowledge points, and make explicit knowledge more vividly displayed to students. Second, improve teachers’ personal quality. Through the construction of international economic and trade geography laboratory, teachers can actively learn and apply the latest geographic information platform to carry out practical teaching activities and master the latest teaching methods and skills. This not only can improve the teaching quality, but also is a process of charging teachers’ learning and enhancing their practical teaching ability.

3.2 More Active “Learning” – Improve the Subjectivity of Students’ Learning

The construction of international economic and trade geography laboratory has improved the motivation of students to acquire knowledge actively. The course of international economic and trade geography involves more spatial thinking and time changes. It adopts simple theoretical teaching. Even if it is supplemented by two-dimensional maps, it requires students to have full imagination and creativity. Otherwise, it is difficult to understand and master, which will greatly reduce the initiative and enthusiasm of some students. However, the construction of the international economic and trade geography laboratory and the introduction of the sky geographical information platform can enhance the students’ initiative and enthusiasm in learning from the space and time dimensions, and promote the learning effect by a large margin. From the spatial dimension, the construction of the international economic and trade geography laboratory can present the geographical pattern and information of international economic and trade more vividly and intuitively. With the help of the platform software, three-dimensional simulation and visualization can be realized. From small ports to large cities and countries, the geographical environment can be intuitively felt in all directions, thus greatly improving the initiative and enthusiasm of students in learning; In terms of time dimension, the instantaneous change of the geographical environment will have an impact on the

economy and trade of all countries in the world. This kind of time change is difficult to achieve the real effect by telling. However, by using the geographic information platform, various indicators such as macroeconomic and trade data in different time periods can be displayed in the form of graphics, maps and icons, so as to deepen the teaching impression, Help students understand the meaning and reasons behind the changes.

3.3 Higher “Research” – Create a High-Quality and Convenient Scientific Research Environment

The construction of the international economic and trade geography laboratory has also created a high-quality and convenient scientific research environment for teachers and students. Academic research and practice competitions are important ways to test the professional knowledge of college students. Especially during the epidemic period, it is impossible to carry out enterprise practice. Academic research and research competitions are particularly important. The application of geographic information platform allows students to conduct research at any time in different scenarios more freely. Taking the writing of the paper as an example, when students need to draw relevant map information to further clarify and analyze the economic and trade data information involving different regions, in the past, they can only use ArcGIS software to realize it. However, the price of the genuine version is relatively high, and students may use the cracked version for this purpose, which infringes the relevant intellectual property rights, Joining the firmament geographic information platform, we can fully realize the function of ArcGIS. We can not only write the paper on the land of China’s economic development, but also keep the relevant data on our own server. This is of great significance for data security. In the practice competition, the sky geographic information platform also showed its strong advantages. Taking the 12th National College Students e-commerce innovation, entrepreneurship and creativity competition as an example, the team of our university used the sky geographic information platform to design the intangible cultural heritage map interface in the competition, which greatly helped the team achieve excellent results in the competition.

3.4 Adapt to “Industry” Faster - Actively Enter Enterprises for Practice

The construction of the international economic and trade geography laboratory enables students to get familiar with it in advance and adapt to the needs of enterprises and related industries and industries faster. In the era of economic globalization, the competition in the field of international economy and trade is becoming more and more intense, and this competition will ultimately be manifested as the competition of talents, especially the competition of high-quality professionals. At present, under the pressure of difficult employment, many international trade majors of application-oriented universities are carrying out training transformation aimed at improving the employ-ability of students. However, affected by the long-term professional education talent training mode, graduates often fail to understand the development of the industry and can not directly adapt to the needs of enterprises. Through the construction of the geographic information laboratory, strengthening the cooperation between schools and enterprises, introducing enterprise tutors, and the application of software such as the geographic information

platform can enhance the practical ability of students. The enterprise tutors can bring the latest industry and industrial development trends, and can cultivate talents that meet the needs of enterprises as soon as possible.

4 How to Strengthen the Application of Modern Geographic Information Technology in the Classroom Education and Management of International Economic and Trade Geography

The course of international economic and trade geography involves a wide range of contents and is constantly updated. The construction of the international economic and trade geography laboratory can make up for many shortcomings of the traditional teaching mode. In the actual construction process, it is necessary to comprehensively consider the actual needs of the school teaching, funding support and market supply.

4.1 Strengthen Industry University Research Collaboration and Introduce Professional Geographic Information Technology Cooperation Platform

The geographic information platform generally integrates RS (remote sensing), global positioning system (GPS) Geographic Information System GIS (Geographic Information System) and other geographic information technologies are highly professional, and their technological iteration and innovation are fast. The course of international economic and trade geography needs to combine the development of trade with the evolution of spatial geography pattern. In the actual construction process, the mode of “school enterprise” resource cooperation is generally selected, the latest equipment and technology in the market are introduced, and the professional practice module is built based on the specific practical needs of the course, so as to rapidly improve the supply level of the school’s practical ability and enrich the teaching scene.

4.2 Improve the Teaching Mode and Make Full Use of the Laboratory to Carry Out Teaching Practice

With the opportunity of teaching reform, curriculum thought and politics, we should organize the promotion and utilization of the laboratory and give full play to the role of the laboratory in practical teaching. First, in the allocation of course hours, we should balance the proportion of theoretical teaching and practical links, apply what we have learned in a timely manner, deepen knowledge understanding and improve application ability. Second, actively apply geographic information software platform to enrich teaching means. Give full play to the dynamic display advantages of platform space and time graphics, improve the depth of analysis, deepen the teaching impression, and help students better understand and master the contents, so as to deepen the teaching impression.

4.3 Strengthen Scientific Management and Do a Good Job in the Whole Life Cycle Operation of the Laboratory

The laboratory is an input-output system. It is necessary to conduct systematic benefit evaluation on the construction and operation of the laboratory regularly to promote the development of the university laboratory [4]. We will make overall arrangements for schools, teachers, students, enterprise technicians and other relevant resources, scientifically manage the whole life cycle of the introduction, utilization and withdrawal of experiments, and formulate relevant management measures. At the initial stage of construction, market research shall be fully carried out, relevant management regulations on bidding and tendering of the school shall be strictly implemented, and necessary supervision shall be carried out; In the process of laboratory construction, the technical personnel of the enterprise shall fully participate in the formulation, implementation and improvement of the scheme, and the school shall do a good job in relevant inspection and acceptance to ensure the quality of laboratory construction; In the process of laboratory application, teaching and students should improve the utilization rate of the laboratory, regularly report major research results to the regulatory department, and enterprise technical personnel should provide relevant service support in a timely manner.

5 Conclusion

In order to cope with the problems of emphasizing theory and neglecting practice in the traditional teaching mode of international economic and trade geography, this paper proposes that the international economic and trade geography course is assisted by geographic information technology by introducing the sky geographic information platform and building an international economic and trade geography laboratory, which greatly improves the enthusiasm and practical ability of students and promotes the improvement of teaching atmosphere, Good teaching effect is achieved.

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