Project-based teaching reform and practice in smart tourism courses throughout the process—Taking "Tourism Statistics" as an example

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Abstract: *As a professional basic course of tourism management major, tourism statistics has the characteristics of strong logic, many concepts and many formulas. Because of its relatively boring theoretical knowledge, relatively complex experimental skills and high requirements for students' mathematical foundation, it has become a common difficulty in the learning process of students majoring in tourism management. In the teaching of Tourism Statistics, by introducing the teaching concept of "project-driven in the whole process", the course is reformed from four aspects: teaching goal, teaching content, teaching method and teaching examination. Specifically, the curriculum goal is set to improve students' ability of tourism statistics analysis, increase the practical content of tourism statistics, and increase the in-depth study of tourism statistics theory; according to the characteristics of the course, the course content of Tourism Statistics is redesigned and the teaching content system is optimized; the teaching of Tourism Statistics is carried out by using project-based heuristic teaching method, task-driven teaching method and team cooperation teaching method. Adopting diversified assessment methods, through the implementation and evaluation of the whole process, students are allowed to study independently and explore problems, and problems are actively analyzed and solved, which greatly stimulates students' sense of achievement and participation in learning and established a more comprehensive and profound understanding of tourism statistics.*

Keywords: *project-based, smart tourism, tourism statistics, curriculum teaching*

1. Introduction

Since the concept of "smart tourism" was put forward in 2010, research on the cross-integration of information technology and tourism and industrial practice have achieved remarkable results: OTA (Online Travel Agent), represented by Ctrip, has basically eliminated the problem of information asymmetry between tourism demand and supply at the static level by integrating offline tourism resources, optimizing business processes and innovating business models through the breakthrough of "hotel + air tickets"[1]. Intelligent tourism has entered the teaching classroom from industrial practice, and has become one of the knowledge systems that tourism majors must master. As a national first-class professional construction point, the tourism management major of the Tourism College of Mount Tai University has always paid attention to the development trend and frontier of tourism management discipline. It has set up a smart tourism teaching and research department to focus on intelligent tourism teaching and research, and specially set up the direction of intelligent tourism. Courses such as "Tourism Statistics", "fundamentals of Python programming", "introduction to big data's thinking", "Tourism big data Foundation", "OTA platform Operation and data Analysis" and "introduction to Intelligent Tourism Technology" are included in the training plan. Due to the abstract knowledge points and relatively complex technology, this series of intelligent tourism courses lead to students' lack of feeling in the process of learning, low enthusiasm for learning and poor learning effect. The Tourism College of Taishan University gives full play to the professional advantages of the teachers of the intelligent tourism teaching and research department, takes the initiative to meet the needs of society and industry, and transforms the project results into teaching cases into intelligent tourism courses. In particular, the whole process of Tourism Statistics course adopts the project results of the teachers of the intelligent tourism teaching and research department, and achieved good teaching results.

2. The problems existing in traditional teaching

With the development of China's economy, the tourism industry has developed rapidly, and in the demand for talents in the tourism industry, we not only need advanced applied talents with deep theoretical foundation, mastery of industry cutting-edge knowledge, but also strong practical ability. At present, the teaching effect of tourism statistics in China is not ideal, students' interest in the course is not high, and teachers do not make full use of the teaching advantages of the course in the teaching process, which leads to students' solid theoretical foundation but weak practical ability[2]. At the same time, the course of tourism statistical survey is a professional basic course with strong application and practicality, which requires students to master some knowledge of mathematical statistics. However, at present, there are the following problems in the teaching process of tourism statistics.

2.1 The theoretical knowledge is boring, the core knowledge points are difficult to understand, and the statistical survey process is lack of intuitive feeling

In the teaching process of tourism statistics, a large number of knowledge points are involved. For example, in the chapter "Comprehensive indicators", although the concepts of arithmetic average, harmonic average and geometric average are explained, it is difficult for students to understand their differences and practical application scenarios. In addition, in the chapter "Statistical Survey", although the survey methods and scheme design are clearly introduced, other influencing factors often appear in the actual investigation process, and it is even more difficult for students to grasp the overall situation of emergency handling.

2.2 The required experimental skills are complex and difficult to learn

The method of data acquisition, the process of data analysis and the way of presenting the results are like reading the Book of Heaven for some students with weak mathematical foundation and poor autonomous learning ability. In the teaching process of tourism statistics, a large number of experimental contents are involved, such as questionnaire and web crawler in data acquisition, analysis of variance, correlation analysis and regression analysis in data analysis. A series of teaching problems in data display, such as structural chart, comparative chart, dynamic chart and so on, are worth thinking deeply.

2.3 The students have no sense of the teaching content, the learning enthusiasm is not high, and the theory can not be connected with practice

In the teaching process of tourism statistics, how can students apply what they have learned? In the process of teaching, how to make students feel more? How to improve students' enthusiasm for learning? If you only follow the textbook, it is difficult to achieve results, the case students in the textbook do not understand, the background students do not know, the conclusions in the textbook can not be verified by students.

3. Curriculum construction and Target design of teaching reform

In order to meet the needs of the development of tourism, the major of tourism management has gradually developed into a new discipline with complete disciplines, distinctive professional characteristics and perfect service functions. Tourism management major is a compound and applied discipline, which must cultivate high-quality applied talents with innovative consciousness and ability in order to meet the needs of the society[3]. However, there is a big gap between the training of tourism management professionals and social needs, especially in tourism statistics, there are serious problems.

First of all, the content of the textbook is outdated. At present, there are many teaching materials for tourism management in the market, but most of them are written for traditional theory teaching, which do not adapt to the development trend of modern tourism. Secondly, the teaching content is divorced from reality. Traditional tourism statistics is dominated by theories and supplemented by cases, but with the development of tourism and the continuous updating of statistical tasks, the original teaching content has been far from being able to meet the needs of tourism management students for professional knowledge and skills. Finally, the practical teaching link is weak. The course of tourism statistics is a highly practical course, which has not formed a systematic and effective practical teaching system at present[4].

Therefore, according to the development trend and requirements of modern tourism and social needs,

how to reform and improve the teaching content, teaching methods and evaluation system of tourism statistics has become an urgent problem to be solved. At the same time, in order to further improve students' practical ability, teamwork ability, innovative and entrepreneurial ability and the ability to solve practical problems, and fully embody the educational concept of "taking students as the main body", improve students' ability to learn independently and solve practical problems as well as innovative entrepreneurship in the process of participating in teaching activities[5]. And organically combine "project-driven" with "industry-university-research cooperation" to form a systematic and perfect curriculum construction and teaching reform model of "Tourism Statistics".

According to the characteristics of tourism statistics course, a student-centered and practice-oriented teaching model is constructed through the whole process project-driven teaching reform. The teaching reform mainly trains students' abilities as follows: first, to use the knowledge learned to make statistical analysis of the relevant data of tourism enterprises and tourists in order to judge and predict the development trend of the tourism market; second, through the study of the statistical index system, so that students can understand the law of the development of the tourism market and master the scientific methods of tourism enterprise management. Third, through the cultivation of the ability of data statistical analysis, students can master statistical investigation and data processing techniques; fourth, through case analysis and discussion, cultivate students' ability to use theoretical knowledge to solve practical problems; fifth, through the operation of statistical software, cultivate students' ability to use computers to solve problems. The sixth is to cultivate students' ability to scientifically analyze and evaluate the operation and management of tourism enterprises through the analysis of the operation and management of tourism enterprises. In the whole teaching process, in addition to the cultivation of the above-mentioned abilities, we also pay attention to the cultivation of students' abilities of independent thinking, innovative thinking and teamwork. At the same time, the project-driven teaching method is adopted in the teaching process to highlight the practical teaching.

4. The reform of project-driven teaching methods in the whole process

In the intelligent tourism courses, especially in the teaching process of Tourism Statistics, relying on Mount Tai Guoxin Wisdom Culture and Tourism Industry College, taking the project of cooperation between the presenter and Shandong Guoxin Culture and Tourism Development Group Co., Ltd. as the main line, combined with the "Tai'an Culture Brigade big data Analysis platform" independently developed by teachers in the teaching and research office, the implementation and evaluation of the whole project are introduced into the whole course teaching process to discuss the working process and solutions.

4.1 Disrupt the order of chapters and reconstruct the teaching content by modularization

Refer to a number of teaching materials and tutoring materials, modular reconstruction of teaching content. For example, the course content of tourism statistics mainly includes the investigation and collation of statistical data, comprehensive index operation, dynamic series analysis, inference, hypothesis testing and statistical method analysis. Combined with the syllabus of the course, in addition to the introduction, the content of the course generally consists of three parts: the first part is the description of statistics, including statistical data survey, collection and collation, comprehensive index operation and common measurement methods of centralized trend and dispersion of data distribution; the second part is inference statistics, including sampling and total index inference. The third part is some commonly used statistical methods, including correlation and regression analysis, mainly introduces the basic principles. The teaching and research group reorganizes the teaching content and reconstructs three parts of teaching modules: the first part is the introduction, tourist statistics, tourism income statistics, tourism reception capacity and other theoretical knowledge, so that students understand the relationship between the research content and statistical indicators; the second part is the sampling technology, group design topics, each group according to their own topics, combined with the knowledge taught, design, distribute and collect questionnaires, etc. The third part is data analysis, including statistical data collation and analysis, statistical chart production, related index calculation and correlation and regression analysis methods. In the whole process, students will have a deeper understanding of the process of statistical work, as well as a better understanding of their own topics[6].

4.2 Emphasize the design and implementation of the project

Through the design of the project, we can guide students to find, analyze and solve problems, so as to change their learning style from passive to active. Therefore, in the process of curriculum teaching, teachers should make clear the objectives of the curriculum, design project plans, and guide students to study. First of all, it is necessary for students to make clear the teaching goal of this course: to cultivate

students' ability to comprehensively use what they have learned to solve practical problems. Secondly, let the students understand the problems to be solved in this course. Collect data by consulting literature and literature review, and analyze the data under the guidance of teachers; then, according to the content involved in this course, the collected data will be collated, analyzed, summarized and summarized. Finally, let the students write the project report.

For example, when teaching the tourism statistics indicator system, teachers can design a project like this:

First of all, let the students read the relevant materials to understand the content of the tourism statistics index system. Then assign homework to students: consult relevant data (such as Baidu map); determine the overall and target groups of this study; collect tourism statistical indicators; design index system according to the content of the project; make statistical questionnaire.

By asking students to read, find materials, determine the overall research and target groups, determine the questionnaire and other ways to understand the content of tourism statistics index system. Then design the index system according to the requirements of the project; design the questionnaire according to the needs of the project; collect data according to the questionnaire; complete the design of the tourism statistics index system according to the data analysis and summary report.

In the process of teaching, teachers should guide students to learn the methods of analyzing and collecting data, to distinguish and understand relevant concepts, and to let students master the design and evaluation methods of tourism statistics index system through project design and implementation. and analyze and sort out the data collected in practice. This can stimulate students' interest in this course and cultivate students' ability to analyze and process data. At the same time, it can also help them understand the connections and differences between tourism statistics and other related disciplines. In the whole teaching process, teachers should play a guiding, organizing and coordinating role. Teachers should understand the feasibility and implementation effect of each project design, guide and inspect the whole project, assess each team according to the implementation effect of the project, and find and solve problems in time.

4.3 Take the students as the main body and run through the whole process of project-based teaching

The students are divided into groups according to the situation of the class, the number of students in each group is 4-6, and a group leader is set up for better organization and coordination. The project is assigned to the students in advance in the form of a task book, preview and discussion before class, citing common or hot events in tourism, leading to the content to be taught, and explaining the important contents in detail, under the guidance of teachers, each group makes clear the topic selection of the project, and at the same time, try to avoid the same topic selection as far as possible. After the project topic is determined, the project plan formulation, project implementation and project summary are carried out according to the knowledge points of each chapter. When making the plan of the sub-project, the division of labor should be clear, and the students should be strictly implemented according to the plan. in the implementation of the project, teachers and students should communicate in real time and guide the problems in time.

4.4 Reforming the examination method and optimizing the evaluation system

After the implementation of the project, the groups summarize the implementation process, conclusions and existing problems, and show the results in class[7]. Teachers are more likely to guide students to find their own problems and explore the characteristics behind the tourism economic phenomenon. The project evaluation consists of three parts: teacher evaluation, group mutual evaluation and intra-group mutual evaluation. teachers and each group score for the presentation of the results, each accounting for 50% of the total score, and the coefficient of mutual evaluation within the group is interpolated. Timely project evaluation can give students a better sense of achievement, stimulate everyone's interest in learning, and enable students to better think in the implementation of the project, learn in thinking, and truly understand the knowledge to achieve real autonomous learning, in-depth thinking.

5. Conclusion

Based on the project-driven teaching concept, this study aims to cultivate students' practical application ability and innovation ability, and carries out the teaching reform of the course "Tourism Statistics". After more than two years of practice, good teaching results have been achieved, which are embodied in the following aspects: first, students pay more attention to the application of what they have

learned to solve practical problems and enhance their interest in learning. Second, students' innovative ability has been greatly improved. This course takes the actual project as the carrier, allowing students to find problems, solve problems and sum up experience in the process of completing the project, so as to improve students' practical ability and innovative ability. Third, it improves students' teamwork ability and teamwork consciousness, this course carries on project cooperation and division of labor in groups, and makes students familiar with tourism statistics theory and can combine it with practical problems through project learning. enhance students' sense and ability of teamwork; fourth, teachers have a new understanding and understanding of teaching methods and assessment methods. This teaching reform is beneficial to the cultivation of applied talents and is worth further popularizing. From the point of view of the distribution of course scores, the high-level students are significantly higher than the previous students. Nearly 10% of the students' grades are excellent, more than half of them are good, and there are no failing students. Students' feedback on the classroom is more positive, thinking that the classroom is lively and interesting, especially a strong sense of participation, which deepens their understanding and interest in scientific research. In addition, the case project comes from Tai'an City, where the school is located, and its neighboring cities of Jinan and Jining, which makes it convenient for students to carry out field research based on tourism big data to verify what they think and learn, and form a closed loop of teaching and practice.

Among all the experiences, there are two points that the teaching team feels particularly deeply: first, in the intelligent tourism courses, students are required to have a sense of participation, taking college students and the scenic spots and hotels around the school as the research object. With the topic selection of tourism-related economic behavior, in the process of implementing each project, we adopt the teaching model of teacher teaching as the guidance, student participation as the main body and project evaluation as the auxiliary. It can stimulate students' interest in learning, enhance students' cooperative ability and practical ability, and obviously enhance students' enthusiasm for learning. Second, the research results of real topics are more closely integrated with the actual industry and local economy, which are convenient for students to understand and practice. Through appropriate transformation, they are very good teaching materials and teaching cases.

However, we need to see that the students lack professional scientific research literacy, so we try our best to complete the project research in the school at the initial stage. Teachers not only need to guide students how to do the project correctly, but also guide students to sum up and reflect in the wrong practice, and encourage students to try again bravely in the follow-up courses and competitions. How to develop from school to social practice is a problem that the follow-up teaching team needs to discuss. In addition, learning data can screen out "excellent students" and "slow students", but instructional design still pays more attention to "middle students" and how to teach students in accordance with their aptitude through instructional design. It is also a problem that the course team needs to continue to explore and solve in the follow-up.

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