Research on Teaching Reform of Applied Statistics Course Based on Network Cloud Platform under the Background of Innovation and Entrepreneurship Education

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Abstract. Under the background of innovation and entrepreneurship education, colleges and universities pay more and more attention to the teaching process reform, which requires strengthening the teaching reform. The traditional teaching mode can’t meet the needs of personnel training. Therefore, colleges and universities must remember to reform their own teaching mode of innovation and entrepreneurship education, which will enhance the ability of application-oriented personnel training. First of all, this paper analyzes the necessity of teaching reform of Applied Statistics. This article briefly describes some problems in the reform of applied statistics course teaching reform based on the network cloud platform.

Keywords: The Teaching Reform, Applied Statistics, Innovation and Entrepreneurship Education, Practical Personnel, Cloud Platform

1. Introduction
In 2012, the Ministry of education of China issued the notice of "basic requirements for entrepreneurship education in general undergraduate schools", which is the first time in China to put forward the concept of College Students' innovation and entrepreneurship, which is an important way to promote the overall development of college students. Through the innovation and Entrepreneurship of college students, we can promote the employment of the whole society, which is an important measure to ensure the employment of college graduates. In 2014, Premier Li Keqiang put forward the slogan of "mass entrepreneurship, mass innovation", which officially opened a new era of innovation and entrepreneurship for college students. We must deepen the reform of innovation and entrepreneurship education mode in Colleges and universities, which will promote the urgent need of upgrading the quality and efficiency of our economy[1]. Through the teaching reform, we will make an important deployment for the cultivation of innovative and entrepreneurial talents, which is a clear requirement put forward by the State Council. In this paper, applied statistics course is the main pilot. By implementing the teaching reform of Applied Statistics course, we can improve the students' practical operation ability, which will better meet the requirements of the society for talents.
2. The nature of Applied Statistics Teaching and the necessity of reform

2.1. Nature of applied statistics course
The course of applied statistics is a methodology subject, which mainly includes data collection, collation and analysis. In the national subject classification, applied statistics belongs to applied economics, which is a required professional basic core course for economic management majors[2]. Applied statistics is a discipline that describes the general characteristics and development laws of social phenomena, which can be described and analyzed by statistical methods. Therefore, the course of applied statistics is a methodology applied subject with strong practicality.

2.2. The necessity of the applied statistics curriculum reform
The entrepreneurial process can be divided into four stages, including business opportunity identification, business model determination, resource integration and project marketing. At every stage of the entrepreneurial process, the market needs to be investigated and analyzed, which is the core knowledge of Applied Statistics[3]. Therefore, by mastering statistical knowledge, colleges and universities can increase students' chances of success in innovation and entrepreneurship, which is very important. However, the teaching of Applied Statistics in many colleges and universities does not reflect the training goal of "applied" talents. Therefore, under the background of innovation and entrepreneurship, the teaching reform of Applied Statistics course is imperative.

3. Problems in the teaching of applied statistics
This paper is based on the field survey. 600 formal questionnaires were sent out, 594 questionnaires were recovered, 581 effective questionnaires were sent out, and the effective rate was 96.83%.

3.1. Theoretical content
Applied statistics is a practical subject In terms of content, applied statistics is a subject mainly based on theoretical teaching, which will assist and practice teaching. Through practical teaching, students can fully understand and master statistical knowledge and analysis methods. According to the survey results, the main problem is theoretical teaching content, accounting for 77.4%[4]. The second is poor practical courses, accounting for 59.4%. Details are shown in Figure 1.

![Figure 1. Theoretical content](image)

3.2. Single teaching method
Influenced by the traditional teaching mode, the teaching method will be adopted in the applied statistics course. Therefore, the teacher said above and the students listened below. The traditional teaching method can't satisfy the education under the background of innovation and entrepreneurship[5]. According to the survey results, 54.8% of the students think the duck-filling traditional teaching is the most commonly used teaching methods. 21.2% of the students think student-centered teaching is the second, the details are shown in Figure 2.

![Figure 2. Single teaching method](image)

4. Teaching reform of applied statistics

4.1. "Participatory" Teaching Reform Design

Compared with the traditional "cramming" teaching, the "Participatory" teaching emphasizes the students as the main teaching method, which advocates students to take the initiative in teaching. Through the "Participatory" teaching reform, students can actively participate in the teaching process, which can improve the importance of students' opinions. The design of participatory teaching reform can improve many ways of Applied Statistics courses, mainly as follows.

4.1.1. Motivate students to participate in teaching actively. The concept of "Participatory" teaching is not a simple combination of teaching and learning, it is an interactive mechanism to achieve the intrinsic relevance of teaching objectives. Students should actively participate in the whole process of teaching and learning. From the perspective of logical order, students' active participation in teaching activities is the key to the success of participatory teaching[6]. The traditional teaching of Applied Statistics lacks necessary incentive measures, which will reduce the enthusiasm of students to participate. Therefore, we must establish the concept of students' active participation. By emphasizing the importance of Applied Statistics courses, we can emphasize the analysis of Applied Statistics cases, which will improve students' cognition of Applied Statistics courses.

4.1.2. Full participation in the design of the first classroom. Student participation is the main embodiment of classroom design, which is the requirement of interactive participatory teaching method. "Participatory" teaching can improve students' practical ability, which will fully mobilize students' subjective initiative. By focusing on the teaching process, teachers and students will have better communication, which will promote the change of students' psychology and action. By changing students from simple recipients to learning subjects, students should change from receptive
learning to discovery and inquiry learning. Through the participation of classroom design of applied statistics, we will complete the knowledge transfer of the first classroom, including classroom teaching, in class discussion, etc. In this way, we can motivate students to take part in teaching activities actively.

4.2. Inspire students' innovation and Entrepreneurship

4.2.1. The teaching process adopts grouping. The most important thing for innovation and entrepreneurship is the cultivation of team spirit, which can make students realize the importance of team. Through group teaching, we can divide the whole class into several groups. Then, each group can choose its own team leader, which will be the organizer of each activity. At the same time, other members will be given different responsibilities according to learning ability, learning interest, personality, etc. The division of work among group members needs to be exchanged regularly, which will realize the cultivation of students' various abilities.

4.2.2. Task driven Teaching. When teachers impart knowledge, they can adopt task driven and case study. By learning around tasks, students can determine and test learning outcomes by completing tasks. In the whole teaching, teachers need to combine theoretical knowledge and practice closely through cases, which will stimulate students' interest in learning. At the same time, through task driven teaching, teachers can increase students' entrepreneurial knowledge, which will improve their entrepreneurial ability.

5. Conclusion

Innovation and entrepreneurship education challenges the traditional teaching mode. Only by conforming to the trend of the times can colleges and universities cultivate talents to meet the needs of the society. Through the teaching reform of applied statistics based on the network cloud platform, the comprehensive skills of students will be cultivated systematically, which will improve students' innovation and entrepreneurship capabilities.

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