# Teaching Design of "Food Nutrition and Safety" Public Elective Course Based on "Internet +"

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**Abstract:** With the continuous advancement of the Internet and information technology, smartphones are bringing more and more impact to the classroom. Traditional public elective courses face many problems. This article takes the public elective course "Food Nutrition and Safety" course set up by the school as an example. From the purpose of changing students' learning habits, improving students' learning ability and giving full play to students' learning autonomy and subjective initiative, combined with the mobile teaching app "Internet +" way, a certain innovative design for classroom teaching.

## 1. Introduction

The public elective course refers to a comprehensive quality general education course offered for the whole school, regardless of grades and majors, in addition to compulsory courses and professional elective courses [1]. The undergraduate talent training program usually includes compulsory courses and elective courses, among which elective courses generally include professional elective courses and public elective courses [2]. The public elective course is an important part of the whole curriculum system of the school, and at the same time it has relative independence. From the curriculum setting to the teaching content and methods, it can be free from the professional and original curriculum system. The teaching method has great flexibility [3]. The opening of public elective courses helps to optimize the professional curriculum system [4], promote the integration of arts and sciences [5], complement each other's knowledge, improve students' comprehensive cultural quality [6] and vocational skills, and enhance students' social adaptability.

## 2. Problems Faced by Classroom Teaching in Public Elective Courses

Today, smartphones have become a must-have for almost all students today [7]. Especially in the classroom of public electives, if the teacher does not pay attention to the maintenance of classroom discipline, he can almost always see the "lower family." At the same time, with the continuous advancement of Internet technology, the functions of smart phones are becoming more and more powerful, and the apps in mobile phones are becoming more and more abundant. Many apps for teaching are also emerging [8]. If the teacher consciously guides and introduces the mobile teaching application into the public elective class and introduces advanced Internet technology into the classroom teaching, not only can the head of the "lower head" be lifted, but also the student's learning habits will be better changed. To enhance students' learning ability.

The "Food Nutrition and Safety" course has certain speciality as a quality education public elective course for all undergraduates. The elective students are mainly students of literature and history majors such as accounting, tourism management, auditing and international trade. A combination of civil engineering and applied chemistry majors in science and engineering. Most of the students majoring in literature and history have not had a systematic public foundation course in chemistry, and they have limited knowledge and understanding of basic knowledge and expertise in chemistry. At the same time, in the traditional classroom teaching process, the communication and

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interaction between students and students is very rare compared with the teacher-student interaction and interaction [9], especially in the public elective class, because the seats are not fixed, maybe every The students around the seat facing the second class are all new faces, which leads to the lack of effective communication and interaction between the students in the teaching activities, making the students become "lonely individuals" in a "collective life" [10]. Such classroom teaching lacks true collectiveness. In fact, this class is just a kind of temporary assembly, not only does not establish the student's subjective status, let alone play the students' learning autonomy and subjective initiative.

Therefore, in summary, in the purpose of changing students' learning habits, improving students' learning ability and giving full play to students' learning autonomy and subjective initiative, the author uses the "Internet +" approach of mobile teaching apps to "food nutrition." The classroom teaching of the Public Elective Course with Safety has undergone a certain innovative design.

## 3. Teaching Design

For the students of public electives, the differences in student source characteristics are particularly prominent. Because the public elective students come from all majors in the school, including both science and engineering majors, and literature and history majors, students of different majors have significant differences in knowledge reserves, especially the differences in professional knowledge. The author compares students majoring in chemistry (science and engineering) with students majoring in accounting (literary and historical). In the course of the public elective course "Food Nutrition and Safety" on the principle knowledge of food nutrition and safety (such as the chemical reaction in food deterioration), through the use of classroom teaching mobile App to conduct a learning effect questionnaire survey found: Applied Chemistry students, Mastering knowledge faster and understanding more deeply can not only remember the method of food preservation, but also clarify the principle, but the details of the method (the optimal preservation temperature of cheese) are inconsistent. Accounting majors mostly remember the details of the methods mentioned in the class, and the understanding of knowledge points is often ambiguous. They usually remember ways to prevent food spoilage (including details), but they are vague about why. Due to the difference in basic knowledge and professional knowledge, this situation will inevitably occur in the teaching of public elective courses, that is, the degree of understanding of professional knowledge is different. therefore. In the teaching of public elective courses, it is inevitable that there will be polarization. This is due to differences in the ability to learn from professional knowledge due to differences in basic knowledge abilities. The difference in learning effects due to such differences in learning ability can be minimized by the group task teaching of the mobile teaching App. Usually the number of public electives is between 80 and 100. Students are often not familiar with each other. It is difficult to form a group spontaneously. At the same time, familiar students often come from the same profession, even the same class. The spontaneously formed groups often cannot complement each other. . Therefore, the author uses the classroom teaching mobile app to insert students of different professional classes in each group, 8 people are 1 group, each group includes four science and engineering students (has repaired or is studying the chemical public basic course, student category I), And 4 students majoring in literature and history (not in the public basic course of chemistry, student category II). The author conducted two classroom tests on the mobile teaching app for 10 students in the whole class. Each test was a total of 10 questions, 1 point for each question, and a total score of 10 points. The knowledge points tested in the 5 sub-questions contain the content of the principle of knowledge (question type I), and the remaining 5 sub-tests contain the knowledge points that need to be memorized in terms of technical or method details (question type II).

The first test time is after the end of the first lesson of the course, and the second test time is after the end of the third lesson of the course. The time between the two classes is for the group. Students have sufficient time to get to know each other and communicate.

## 4. Discussion

The results are shown in Table 1. The average score of the science and engineering students of each group is significantly higher than the average score of the students of the literature and history. In the second test, the average score of each group is tested, whether it is a science or engineering student or a student of history. Compared with the first test, the average score has improved significantly.

Table 1 Average scores of students in each group

| Group number | Student category | First test | Total average score | Second test | Total average score |
|---|---|---|---|---|---|
| 1 | I | 8 | 7.25 | 9 | 8.5 |
| | II | 6.5 | | 8 | |
| 2 | I | 7.5 | 7 | 8.5 | 8 |
| | II | 6.5 | | 7.5 | |
| 3 | I | 8.5 | 7.75 | 9 | 8.5 |
| | II | 7 | | 8 | |
| 4 | I | 8 | 7.5 | 8.5 | 8 |
| | II | 7 | | 7.5 | |
| 5 | I | 8 | 7.5 | 8.5 | 8 |
| | II | 6 | | 7.5 | |
| 6 | I | 7.5 | 7.5 | 8.5 | 8.25 |
| | II | 7 | | 8 | |
| 7 | I | 8.5 | 7.5 | 9.5 | 8.5 |
| | II | 6.5 | | 7.5 | |
| 8 | I | 8 | 7.5 | 9 | 8.5 |
| | II | 6 | | 8 | |
| 9 | I | 7.5 | 7.5 | 8.5 | 8.25 |
| | II | 7 | | 8 | |
| 10 | I | 7.5 | 7.5 | 8.5 | 8 |
| | II | 6.5 | | 7.5 | |

As shown in Figure 1, for science and engineering students, the sub-question (question type I) that contains the content of the principle of knowledge, the scoring rate is usually higher, while the students of the literature and history majors have higher error rates in this area, including The opposite is true of the content that needs to be memorized in terms of technical or method details (question type II).

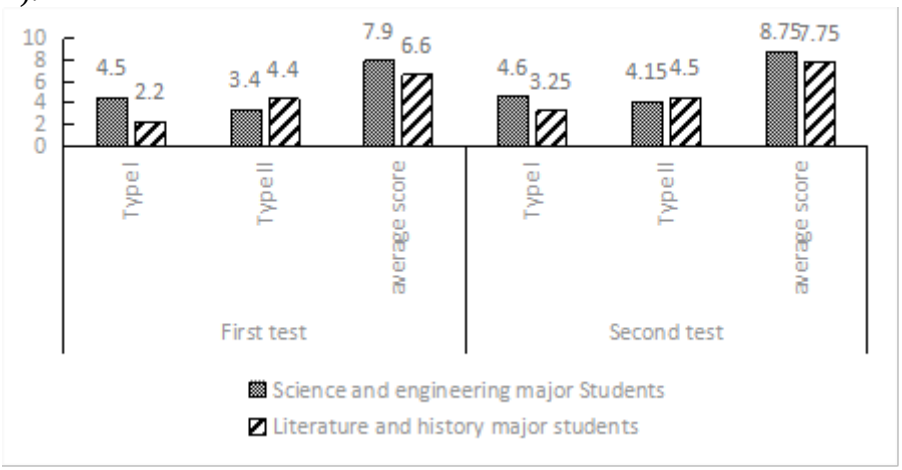


Figure 1. Statistics of different types of students' different types of questions

Table 1 and Figure 1 show that the construction of learning groups for students majoring in science and engineering and literature and history through the mobile teaching app can significantly reduce the impact of differences in knowledge reserves on student learning and improve the learning outcomes of these two types of students. . At the same time, the author found that after the first test, each group of students spontaneously contacted according to the random grouping of the teachers and formed a group as a unit in the second classroom teaching. During the classroom process, the “lower heads” were significantly reduced, and the classroom learning atmosphere became more and more intense.

The continuous improvement of information technology and the rapid development of the Internet have continually impacted traditional classroom teaching, which has brought many new

problems, but at the same time it has provided solutions. As an educator, we should seize the opportunity, constantly adjust the teaching methods and methods, innovate teaching methods, respond to the challenges and challenges of the "Internet +" classroom, and better fulfill the mission of teaching and educating people.

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