Exploration and Practice of Interactive Teaching Method in Agrometeorology Teaching

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Abstract: High-quality undergraduate teaching urgently needs in-depth reform of the classroom. The interactive teaching mode is the most fundamental and classic mode of education. In order to explore the impact of the interactive teaching model on agrometeorology teaching, this article compares and analyzes the results of the interactive teaching model and the traditional teaching model, and conducts a questionnaire survey on the recognition of the two teaching modes. It was found that the final paper scores and overall evaluation scores under the interactive teaching mode were higher than those in the traditional classroom teaching mode; six accreditation evaluation indicators for teaching mode of the teaching organization form, the teaching interaction between teachers and students, the mutual assistance and collaboration between students, the teaching enlightenment for thinking, improving the ability of thinking in the classroom and cultivating a positive attitude to learning, more than 80% of students are positive about interactive teaching and are very satisfied. High-quality education requires high-quality classroom support, and the interactive teaching of teachers and students has its unique advantages in stimulating students to actively build knowledge, develop creative thinking, and cultivate high-quality talents with innovative capabilities and international vision.

1. Introduction

Agrometeorology is a science that studies the relationship between agricultural production and meteorological conditions and their laws. It is one of the basic disciplines of agricultural science and an important branch of applied meteorology in meteorology. The teaching content of agrometeorology includes relevant professional knowledge in the fields of meteorology, meteorology, climatology and applied meteorology [1]. Agrometeorology, as a professional basic course offered by non-agrometeorology majors in agricultural universities And the development of critical thinking skills, etc. In addition, teachers and students have less communication and interaction in classroom teaching, the teaching content is outdated, not attractive to students, the enthusiasm for class is not high, and the motivation for learning is insufficient, which makes the students' participation in the classroom even lower. Can not guarantee the quality of its teaching, then all educational goals and pursuits will become empty words [2]. Therefore, to improve the quality of teaching and ensure the quality of student training, we must start with classroom reform.

Regarding the reform of the agrometeorology classroom, many scholars have explored the content of course teaching [3], the update of teaching materials [4], course assessment [5], and teaching methods [6-10]. In order to effectively improve the quality of personnel training, what kind of teaching model is needed in the classroom of agrometeorology course, at present, no scholar can clearly express. Although we have formulated various systems in the classroom, the teaching has not achieved the preset results. What factors hindered the occurrence of high-quality classrooms [11]. Classroom teaching activities are not simply the transfer of knowledge, but communication and interaction based on harmonious emotions between teachers and students. The teaching process is essentially a process of communication. This communication is communication and dialogue. Without dialogue, there is no communication, no There is no real education for communication [11].

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Therefore, the interactive teaching mode is one of the important teaching modes to obtain the teaching effect. This article aims at the application of interactive teaching mode in the teaching process of agrometeorology, and combined with teaching practice, discusses the impact of interactive teaching mode on the teaching quality of agrometeorology, in order to provide an effective teaching mode for agrometeorology teaching reform .

2. Results and Analysis of the Application of Interactive Teaching Model

2.1. Teaching Effect of Interactive Teaching Mode

The majors participating in this interactive teaching model include agronomy, horticulture, seed science and engineering, and plant science and technology. Compare and analyze the assessment results of the teaching class using the interactive teaching mode and the teaching class of the same major in the past 4 semesters. The results are shown in Table 1.

Table 1 Comparison of results between interactive teaching and traditional teaching model

Major	Grade category	Interactive teaching model(Fall 2019)	Traditional teaching model(2019 spring)	Traditional teaching model(Fall 2018)	Traditional teaching model(2018 spring)
Agronomy	final exam	77.19±8.75a	73.76±9.33a	72.37±8.19b	72.41±9.55b
	overall rating	78.73±7.64a	73.15±8.54b	72.45±6.32b	73.18±7.78b
Horticulture	final exam	78.43±10.21a	73.62±10.43b	72.92±10.61b	72.93±9.82b
	overall rating	79.87±8.52a	74.85±9.23b	73.35±9.57b	74.12±9.83b
Seed Science and Engineering	final exam	76.66±10.36a	73.65±9.23a	72.27±10.14a	71.78±9.06b
	overall rating	77.95±8.39a	73.83±9.25a	73.05±8.24a	72.07±9.19a
Plant Science and Technology	final exam	80.23±9.69a	75.36±9.72b	74.37±9.97b	75.68±10.68b
	overall rating	80.65±9.35a	76.33±8.66a	75.31±8.87b	75.32±9.35b

Different lowercase letters after the figures of peers indicate that there is a significant difference between the results of each group ($P < 0.05$).

The results show that after applying the interactive teaching mode, the four majors have higher final scores and overall scores than the traditional classroom teaching mode. Except for the seed science and engineering majors, the final grades of the other three majors are significantly higher than the traditional classroom teaching mode ($P < 0.05$) (Table 1). Horticultural and plant science and technology use interactive teaching methods, the scores are significantly higher than the traditional classroom, the difference is statistically significant ($P < 0.05$), the other two professional interactive teaching methods are higher than the traditional classroom, but the difference Not significant (Table 1).

2.2. Recognition of Interactive Teaching Model

Choose six evaluation indicators: teaching organization form, teaching interaction between teachers and students, mutual assistance and collaboration between students and students, Teaching enlightenment for thinking, improving the ability of thinking in the classroom, and cultivating a positive attitude to learning. The results are shown in Table 2.

Table 2 Recognition of interactive teaching mode (unit:%)

Evaluation index of recognition degree of interactive teaching method	very satisfied	basically satisfied	partially satisfied	dissatisfied
Teaching Organization Form	85.68	12.76	0.62	0.94
Teaching interaction between teachers and students	81.89	15.37	1.98	0.76
Mutual assistance and collaboration	80.67	16.79	2.35	0.19

between students and students				
Teaching enlightenment for thinking	79.67	15.97	2.63	1.73
Improving the ability of thinking in the classroom	86.23	10.58	2.63	0.56
Cultivating a positive attitude to learning	87.58	10.34	1.73	0.35

It can be seen from the table that the results of the survey indicate that more than 80% of the students have a positive attitude towards the evaluation index of the interactive teaching model and are very satisfied (Table 2)

3. Demand Analysis of Interactive Teaching Mode

The interactive teaching method emphasizes the interaction between teachers and students and the interaction between students. In the classroom discussion stage, students need to have group discussions. Regarding the learning style of group discussion, when asked if they want to study in a group discussion among classmates, 18.57% of the students said that they do not want to have a group discussion, and more students accounted for 81.43% of them want to have a group discussion. This method can not only share learning information, but also promote mutual exchanges and deepen the friendship between students. The current education is not only to teach the main points of knowledge, but also to cultivate the students' ability to organize, communicate, collect information, etc. that can adapt to the development of this era. The classroom with "learning ability as the center" should pay more attention to the improvement of students' all-round abilities. Compared with the traditional classroom teaching, the interactive teaching model provides a more efficient way to achieve the goal of talent training.

In the final assessment method, the interactive teaching model pays more attention to the process assessment, which is one of the reasons why it is popular among students. Our survey also shows that 85.59% of the students choose the final exam to adopt the "attendance + classroom discussion + group results + final exam" method. There are many ways to evaluate the interactive teaching model, which can be designed and supplemented according to the characteristics of the course, and the performance of the classroom is included in the evaluation system of the assessment system.

4. Conclusion

The interactive teaching mode is the most fundamental way to carry out education and teaching. Teaching and learning are essentially a dialogue relationship. The dialogue between the teaching subjects can accurately understand the students' learning needs and learning obstacles, and implement precise teaching guidance according to the learning needs. In-depth interaction and communication are carried out at the office to enable students to move from closed to open and continue to surpass, thereby constructing an interactive teaching paradigm with a sense of gain for both teachers and students [11-12].

The ultimate standard for testing and measuring teaching effectiveness lies in whether it can really affect and promote the growth of students, whether it can promote students from passive learning to active learning, and whether they can effectively improve students' critical thinking, innovative ability and comprehensive quality[13-14]. The interactive teaching model is really the best way to achieve this standard. The teaching model will be widely used and produce positive results. Teachers of interactive teaching have gradually changed from traditional single lecturers to lecturers, evaluators and facilitators. The requirements for teachers’ comprehensive ability to organize classrooms have been greatly improved, and the preparation and intensity of pre-classes have also increased. The knowledge recipients have transformed into knowledge recipients, discoverers, communicators and speakers, and the scope of learning has also expanded [15]. Therefore, teachers need to clarify the teaching objectives, highlight the key points and difficulties of the chapters, so that students can absorb and discuss the content. At the same time, they should

design group discussions and presentations of homework, gradually guide and encourage students to participate in group discussions and exchanges, so that students It can get rid of the dependence on traditional teaching methods, and feel the learning effect brought by the interactive teaching mode in time, effectively enhance the students 'self-learning ability and time management ability, narrow the distance between students and teachers, and better promote students' Growth and improvement of personal qualities, thereby promoting the occurrence of high-quality teaching.

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