

Research on the Strategies of Improving Classroom Teaching Quality

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Abstract—Classroom teaching is the main battlefield of college teaching, and the quality of classroom teaching is an important factor affecting the quality of talent training. Based on the applied undergraduate colleges, this paper first analyzes the current situation of classroom teaching, focusing on the main causes of classroom inefficiency from teachers and students. On this basis, the strategies for improving the quality of classroom teaching are elaborated from the perspective of teachers. They are introduced from the five aspects of mastering teaching content, improving teaching design, using a variety of teaching methods, improving classroom mastery, and timely teaching reflection. Classroom application practice of three years shows that the methods of this paper have achieved positive teaching effect, and provides a reference for classroom teaching reform of similar colleges.

Keywords—classroom teaching quality; applied undergraduate college; classroom concentration; teaching reflection

I. INTRODUCTION

The continuous expansion of the enrollment rate of higher education has also promoted the transformation of education from quantitative growth to qualitative improvement. It is necessary to take quality as the lifeline of education and strive to cultivate students' innovative spirit and practical ability by setting off a "classroom revolution" [1].

Classroom teaching is the most core and basic link in talent training. The application of information technology and the Internet in the field of education has injected new vitality into the reform of classroom teaching. Applied undergraduate colleges have also stepped up the reform of classroom teaching, and various reform measures are constantly being implemented and applied, but the attractiveness of university classrooms is declining. Despite the continuous upgrade of naming methods such as "scanning code for classes, taking photos and signing in", late arrivals and absenteeism are not uncommon. "Heads down" and "hand accusations" [2] have become the norm in the classroom and the current situation of classroom teaching is worrying. Changing the present situation of classroom teaching and improving the quality of classroom teaching has become a key issue for colleges and universities to solve.

Based on the applied undergraduate colleges, this paper first analyzes the current situation of classroom teaching, and finds the main reasons for the low classroom efficiency from both teachers and students. On this basis, from the teacher's

perspective, the strategy for improving the quality of classroom teaching is elaborated, focusing on the practices and experiences in five aspects, that are mastering teaching content, improving teaching design, using a variety of teaching methods, improving classroom mastery, and timely teaching reflection. After three years of practical application in the computer major of our school, this method has played a positive teaching effect in promoting the improvement of classroom teaching quality and greatly improved the quality of talent training.

II. AN ANALYSIS OF THE CURRENT SITUATION OF CLASSROOM TEACHING

Classroom teaching is a system of interaction of various factors including teachers, students, teaching materials, and environment [3]. Only when these factors are coordinated can the overall benefit of the classroom be promoted. Against the background of highly developed information and the rapid advent of MOOCs, system elements are increasing, but the overall quality of the classroom is not satisfactory.

This paper divides the teaching system's multi-factors into objective factors and subjective factors. Objective factors include teaching materials and environment, and subjective factors include teachers and students. The following is an analysis of the current status of classroom teaching from this objective factor, teachers and students.

A. The Current Situation of Objective Factors

Teaching materials and environment are the objective factors of classroom teaching and provide basic support for classroom teaching.

In order to adapt to the development of technology and the needs of employers, applied undergraduate colleges continue to strengthen the speed of knowledge follow-up, especially the stricter requirements for the freshness of teaching materials.

Teaching materials are required to be published in the nearly three years. The content of the textbooks is moderate in depth, and the content is more practical. Colleges encourage teachers to write textbooks that can carry out targeted teaching according to the characteristics of students' own abilities. At the same time, each course must compile teaching plans and experimental instructions, and implement teaching strictly in accordance with the requirements.

Classroom teaching environment includes classroom environment and practice environment. The construction of applied undergraduate colleges in this respect is relatively complete. The teaching is equipped with multimedia equipment and wireless network, which is convenient for teaching and students to carry out online teaching anytime and anywhere. The practice environment is equipped with several experimental instruments, which can support the experimental requirements of one person and one set. In addition, forms such as off-campus training bases and school-enterprise cooperation strongly support the teaching of practical training courses. This shows that colleges and universities are relatively perfect in the construction of teaching conditions to meet the requirements of students for practical training.

In summary, the objective conditions of the school can ensure the normal development of classroom teaching, and the determinants of classroom teaching quality are teachers and students.

B. The Current Situation Analysis of Teachers

Teachers are the leaders of classroom teaching. Only by effectively organizing teaching and inspiring students' participation in the classroom can teachers achieve good teaching effects. However, in the applied undergraduate colleges, the following situations generally exist among the teachers:

First, teachers have different professional foundations, and many teachers are engaged in teaching work across disciplines. Unfamiliar with the content of professional teaching, learning while talking to students, leading to the phenomenon of copying the subject. Some teachers do not understand the teaching content very well, and they can only speak what they have in the textbook. Some teachers lack scientific research experience and cannot introduce new technologies and experiences into classroom teaching, making the classroom boring.

The second is that colleges and universities promote the use of information-based teaching tools to improve the quality of classroom teaching. Some teachers only use them to complete tasks. Informatization tools become a teaching burden and cannot serve the teaching better.

The third is that some teachers' classroom control skills are slightly inadequate, they cannot use questions and tests flexibly, and they cannot effectively improve classroom attention. As a result, students sleep and play mobile phones in the classroom.

C. The Current Situation Analysis of Students

Students are the main body of classroom teaching, and teachers' organization ability is reflected by students' participation. Despite the teacher's efforts, the students were motivated by several methods, but the classroom remained silent. The reasons are as follows:

First of all, in today's extremely rich electronic products, mobile phones have become a necessity of students' lives. Students only bring mobile phones into the classroom. Playing games, watching news, and chatting in class has already become a common phenomenon in the classroom, which has

seriously affected the classroom teaching order and Teaching quality.

Secondly, the foundation of application-oriented undergraduates is relatively weak, the self-control is poor, and they cannot devote themselves fully to learning.

Thirdly, students have not good study habits, they like to listen to teachers' lectures, they don't like to write down content, they are not good at brain thinking, and the efficiency of classroom lectures is low.

Finally, students lack the habit of proactive thinking, encounter problems waiting for teachers to solve, and plagiarized homework, not completed homework and other problems are more prominent.

III. STRATEGIES FOR IMPROVING THE QUALITY OF CLASSROOM TEACHING

A. Proficient in Teaching Content

Classroom teaching is the process of imparting knowledge, and teachers' understanding of knowledge directly affects the quality of students' learning.

Teachers must be proficient in the content of the textbook, be able to sort out the logical relationship between chapters, and build a knowledge tree. Only in this way can the lectures have clear ideas and focus.

Teachers must be able to correctly grasp the depth and breadth of the content, thoroughly understand the abstract content and difficult to understand content, and use the simplest and easiest words to teach the students, so that the students can understand, and the teachers can do it in class.

Teachers should understand the teaching content of other courses in this major, sort out the relationship between multiple courses, integrate the content of the leading courses into the teaching of the course, and at the same time lay the foundation for the subsequent courses, help students build a course knowledge network and improve their comprehensive use of multiple Knowledge ability to solve practical problems.

At the same time, teachers are encouraged to participate in scientific research and introduce scientific research technology and experience into teaching. On the one hand, they will enrich teaching examples, and on the other hand, they will provide students with experience in project development. Teachers can also introduce academic trends [4], research hotspots, research results, organize students to discuss related academic issues, increase students' insights, expand students' horizons, and also sublimate the level of classroom teaching to a new level, guiding students to the forefront of professional technology and scientific development.

B. Improve Teaching Design

The teaching design of the course should solve the problems of "why to teach", "what to teach", "how to teach". In a class, what knowledge should be taught to students, what abilities should be cultivated, what methods should be learned, and even how to improve the emotional value all should be clear and specific.

First, we must scientifically formulate teaching plans. Teachers should carefully study the curriculum standards and scientifically formulate teaching plans according to the curriculum standards. The content of one class should be full. The requirements for pre-class preparation must be clear. The average preparation time should not exceed 15 minutes. The amount of homework should be moderate, and difficult and easy questions should be matched.

Second, we must objectively analyze the current situation of students. Students' knowledge base, ability level, knowledge needs, interests and hobbies are all different. The instructional design correctly grasps the learning base and learning desire. Starting with the students' knowledge and finding a breakthrough on the basis of knowledge can only resonate with the students and stimulate their potential for learning.

Third, we must rationally organize the teaching content. The textbook only provides a guiding function for teaching activities. The chapters and sections of the teaching materials are only an organizational form of knowledge, but this form is not necessarily suitable for the presentation of teaching content. Classroom teaching is a three-dimensional space composed of the trilateral relationship of teachers, students, and knowledge. Teachers coordinate new knowledge, students' foundation and ability, and their own literacy. They organize teaching content in a targeted manner, determine the focus, difficulties, and contentions of teaching, and strive to take these knowledge points as a guideline to gradually spread and cover the teaching content of one class.

At the same time, experimental topics and experimental timing are the main factors to be considered in instructional design. Experimental topics should not be limited to knowledge points, but should focus on the synthesis of multiple knowledge, difficult to match, to meet the learning needs of students at different levels.

C. Use Multiple Teaching Methods

Teachers should fully understand the connotation and applicability of various teaching methods, use the teaching methods reasonably according to the teaching content, and make the teaching methods a multiplier to improve the classroom teaching effect.

Inheritance and innovation of teaching methods. Each teaching method has its generation background and purpose, and also has its own pertinence and limitations. For example, the role of traditional teaching methods in introducing concepts and theorems cannot be ignored. Inspiring teaching methods are The analysis of key and difficult issues is quite effective. As another example, the teaching methods such as "problem chain", "module-driven task sharing", and "divided classroom" [5] have also played a good role in teaching. For this reason, the author believes that the teaching method is only a way to express the problem or a perspective. The soul of the teaching method is not the method itself, but the active and active learning effect stimulated during the implementation of the method.

Reasonable use of teaching methods. Teaching tools such as MOOCs platform, "rain classroom" [6] and so on have

complementary advantages. The MOOCs are rich in resources. In a course of MOOC, course content is divided into multiple independent knowledge points. The knowledge points are centered on micro video, with test questions, reference materials and so on. The MOOCs platform can be used as a tool for pre-class preview and post-class expansion learning. Before the class, students learn on the online teaching platform to complete the pre-training tasks assigned by the teacher; after the class, they are used to deepen the understanding or expansion of the classroom content.

The teaching software such as "rain classroom" is easy to install and easy to operate, suitable for use on the computer and mobile phones, and is widely used in colleges. The tool of "rain classroom" incorporates teaching tools into PowerPoint. Teachers can insert single-select, multi-select, fill-in-the-blank and subjective questions in the PPT for testing, and answer within a limited time; random roll call, on-site testing, and histogram display test questions Situation and other functions provide a rich means for classroom teaching. The teaching software is used for the whole process of classroom teaching. Pre-arrangement tasks are arranged before the class and assignments are arranged after the class. For example, rain classroom can publish pre-training courseware with voice, and can also release test questions.

The author believes that various teaching methods have their advantages and disadvantages. Teachers should integrate these methods with the teaching content, let the methods serve the teaching, and blindly emphasize the diversity of teaching methods and excessive pursuit of gorgeous scenes.

D. Improve Classroom Control

Whether a positive listening atmosphere can be produced in the classroom is a key factor in how well the teacher controls the classroom, how the teacher can control the students' attention and be able to maintain his attention for a long time. Classroom control ability is a comprehensive test of teachers' knowledge and ability. The control ability varies from person to person, from student to student, from classroom to classroom. There is no process and method to follow in classroom control.

Teachers' proficiency in teaching content is a prerequisite for controlling the classroom. When teachers have high professional knowledge literacy [7,8], the teaching content is clear and the body language is rich and reasonable, which will naturally receive a higher rate of head-up. Teachers are able to handle content with ease, and can be deep or shallow, back-to-back, and naturally have the ability to deal with emergencies in the classroom.

Teachers' knowledge of students is the key to controlling the classroom. Teachers must know the reason of students sleeping in class and playing with mobile phones in order to treat the symptoms. Teachers take the students' thoughts and use questions, discussions, quizzes, etc. to make students' hands and brains move at the same time, and let students take the questions to turn to the book to find answers and write notes. Teachers do not give the students time to sleep and play mobile phones, which will naturally improve the efficiency of classroom listening.

Teachers' emotional input to students is the internal motivation to control the classroom. When teachers are enthusiastically presented to the students, they will increase the affinity of the students, and the students will naturally accept the teacher from the heart and accept the teacher's classroom. Teachers understand the emotion and reason in the communication with the students. This kind of interaction will have a continuous, essential and positive influence on the students' behavior and thinking, and form the internal driving force for the students to learn. The internal cause depends on the external cause. If the teacher's emotional communication can be turned into the internal motivation for students to learn, the efficiency of classroom teaching will naturally be doubled.

E. Timely Reflection on Teaching

Teaching is a complex cognitive activity full of interaction and dialogue. Teachers are constantly faced with changing situations and complex practical problems [7]. These problems are all unpredictable in instructional design.

For example, in questions and discussions, there are often unpredictable answers and new questions. In the classroom teaching, there are unsatisfactory situations such as "students are not motivated", "students do not speak", and occasionally after class. Teachers will also hear comments such as "unable to understand" and "too abstract". For classroom feedback such as this, teachers should be free from all kinds of complaints and excuses, reflect on the shortcomings and deficiencies in teaching links, teaching methods and even teaching methods, and truly and thoroughly identify the root causes of these problems and promote the quality of teaching to improve the effectiveness of classroom teaching.

At the same time, information-based teaching methods can make statistics and analysis of students' participation in classroom teaching, including students' completion of pre-review and review tasks, the number of students attending the class, on-site testing, and early warning for students who are not active or have poor test results. These data quantify the student's learning trajectory and provide an objective evaluation basis for the teaching process. Teachers understand the students' learning status and learning level according to the chart data, and effectively control the teaching process.

In fact, reflection is not only a matter of checking problems and finding causes, but also a valuable personality quality. Requirements for the development of reflection quality: teachers should be good at summing up experience from classroom teaching and exploring more efficient classroom teaching; teachers must not only have external professional responsibilities, but also have inherent value, mission and sense of efficiency; at the same time, the teacher must do lifelong learning, so that his own development of knowledge,

experience and even lessons can be truly transformed into the wisdom of teaching and educating people.

IV. CONCLUSION

This paper elaborates strategies for improving classroom quality from a teacher's perspective, focusing on teaching methods, teaching design, teaching methods, classroom control ability, teaching reflection and other aspects of practices and experiences. The method of this paper has been applied in the classroom teaching of computer specialty for three years. The results show that it has played a positive role in improving the quality of classroom teaching.

At the same time, we must see that classroom teaching is a systematic project, and improving the quality of college classroom teaching is what everyone expects [1]. Crossing the gap between ideal and reality will inevitably require the joint efforts of diverse subjects and actors such as schools, teachers and students, employers. Promoting further the reform of classroom teaching from a single classroom process to the comprehensive reform of the classroom, to build a new classroom ecology, help to improve classroom teaching practice and solve problems in the practice of private colleges and universities.

REFERENCES

- [1] SHU Libing, "Multi-Party Governance of University Classroom Teaching Quality Improvement from the Perspective of Stakeholders," Higher Education Forum, vol. 10, pp. 59-63, Oct. 2019. (*In Chinese*).
- [2] ZHU Huiling, GUO Jian, QUAN Zhijun, "Discussion on Teaching of electromechanical control courses under the background of "Internet +"," The Guide of Science & Education, vol. 12, pp. 82-33, Dec. 2019. (*In Chinese*).
- [3] ZHANG Jiwang, "Understanding and thinking about improving the quality of classroom teaching in universities," Education Modernization, vol. 5, pp. 184-186, Oct. 2018. (*In Chinese*).
- [4] HONG lian, "How College Teachers Improve the Quality of Classroom Teaching," Research on Higher Education Modernization, vol. 5, pp. 89-92, Nov. 2013. (*In Chinese*).
- [5] Hao Jin, "Divided Classroom: A New Exploration of College Classroom Teaching Reform," Frontiers in Educational Research, vol. 1, pp. 7-12, Nov. 2018.
- [6] WANG Lanfang, WEI Zongtian, ZHANG Junmin, "Suggestions on classroom teaching of large classes in colleges and universities," Contemporary Education Research and Teaching Practice, vol. 5, pp. 79-80, Mar. 2020. (*In Chinese*).
- [7] WANG Hui, LIU Lizi, WANG Haibao, ZHANG Yiwei, "Exploration of Improving Teaching Quality and Listening Class Quality in Applied Technical University," Education Teaching Forum, vol. 8, pp. 260-261, Feb. 2020. (*In Chinese*).
- [8] ZhiChao Wang, Qing Tian, Xinxing Duan, "Research on the evaluation index system of college students' class teaching quality based on association algorithm," Cluster Computing, vol. 8, pp. 13797-13803, Jun. 2019.