

Analysis of the application of "Internet+" flipped classroom in oral and maxillofacial surgery teaching

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Abstract: With the help of the emerging teaching mode of flipped classroom, it is applied to the teaching of oral and maxillofacial surgery to improve the quality of teaching and exercise students' comprehensive ability. Firstly, the basic connotation of flipped classroom and the content characteristics of oral and maxillofacial surgery are expounded, and then based on the characteristics of flipped classroom teaching mode, the practical application of this method in oral and maxillofacial classroom teaching is explored, so as to further improve the shortcomings of the traditional teaching mode.

1. Introduction

Oral and maxillofacial teaching based on flipped classrooms can give students more time in the classroom at their disposal, students can focus on project-based inquiry learning, and can cooperate to discuss problems, so as to obtain a more systematic and in-depth knowledge understanding. Teachers will use less time to instill knowledge, and the learning and understanding of this information requires students to conduct independent inquiry, students can explore knowledge, solve problems, and promote teaching efficiency by watching video explanations, consulting materials, listening to lectures, online communication, etc.

2. Flip the Concept of Classroom Connotation

With the help of network technology, the flipped classroom teaching model has gradually spread in the field of education. In the classroom teaching, teachers re-improve the teaching mode, re-adjust the learning and communication time within the classroom, and put more learning initiative and decision-making power in the hands of students. Simple understanding of the flipped classroom model: that is, the content of in-class teaching and extracurricular learning are exchanged, and the teacher leaves the knowledge points that should be left in the classroom for students to learn and explore independently after class, and the learning content, homework, etc. that need to be completed by students after class are transferred to the classroom ^[1].

The flipped classroom model changes the traditional teaching process and model, and students can spend more time for independent learning and collaborative discussion, rather than mechanically listening to the teacher's single explanation. With the free time in the classroom,

teachers can also interact with students in a variety of ways, so as to facilitate students' deepening understanding of knowledge points and strengthening their application ability. After class, students can also consolidate and review according to their own habits and time schedule, and teachers can give appropriate guidance to different students by formulating some different teaching methods, so that students can fully develop their potential.

3. The Application of Flipped Classroom Mode in Oral and Maxillofacial Surgery Teaching

3.1. Characteristics of Oral and Maxillofacial Surgery Learning Content

Oral and maxillofacial surgery mainly involves the human oral organs, facial soft tissues, salivary glands, neck and other positions, and is a medical subject mainly based on the treatment, prevention and research of surgical diseases. It is a medical discipline with relatively high attention in the field of modern medicine, and the discipline mainly focuses on two major aspects: stomatology and clinical medicine. For example, it will involve orthodontics, periodontology, prosthodontics and other professional content^[2]. Of course, it will also involve internal medicine, surgery, ophthalmology and other contents, and the learning content and knowledge points are more extensive and complex, and there is a close relationship with a number of clinical medicines. It is precisely because oral and maxillofacial surgery has these characteristics, so in the process of learning, the use of traditional theoretical teaching methods obviously cannot meet the current teaching needs. At present, due to the lack of medical resources in China, there is a large shortage of medical talents and clinicians, and in the teaching process of undergraduate medicine, students are not only required to master relevant professional theories and medical knowledge, but also need to have a certain degree of clinical medical foundation. As a surgical specialty, various key contents, typical diseases, surgical cases, etc. in surgical teaching are the key contents in teaching. However, due to the facial anatomy characteristics of oral and maxillofacial disciplines, the traditional teaching mode is not enough for students to clearly understand the process of surgery and effectively improve students' practical experience. Therefore, the teaching mode of flipped classroom has been discovered and applied to course teaching, which provides new ideas for oral and maxillofacial professional teaching.

3.2. The Design of Flipped Classroom in Oral and Maxillofacial Teaching

3.2.1. Prepare before Class

Before taking a flipped class, the class should be thoroughly prepared and prepared. The teaching route is implemented in accordance with the requirements of the syllabus. Teachers can divide teaching materials into appropriate chapter tasks according to the actual situation, and then collect relevant materials and organize them. Then record a micro-lesson video with a time of 5~10 minutes. The content of the micro-course has been discussed by teachers of various subject groups, of course, you can also seek some experience and suggestions from other oral surgery teachers, control the standards, grasp the key content of teaching, and strive to shoot micro-course videos that can be streamlined and efficient. For example, clinical diseases such as inflammation, trauma, tumor-like lesions and tumors can collect more relevant clinical cases and typical cases [3]. Demonstrate different knowledge points, and actively use network multimedia, through animation, video and explanation, so that students can understand more simply and efficiently. At the same time, when displaying materials and explaining knowledge points, it can also be appropriately extended to lead to some other knowledge points, such as Schergrren syndrome, salivary gland malignant tumor treatment and other disease cases. In addition to video case explanations, you can

also provide some case information, design some thinking questions, guide students to explore independently, or participate in cooperation, and finally let students record the results by themselves.

One week before the official start of teaching, you can upload micro-course videos, thinking questions, mobile phone videos and other related materials and information to the campus teaching management system, or in the exchange group, and at the same time, in the exchange group, release some excellent courses of medical schools, such as MOOCs, video open courses and other online teaching resources, urge students to take the initiative to research and watch, actively carry out independent exploration, and use Internet resources to consult literature, teaching materials, treatment guides for related diseases, etc. Solve the thinking questions raised to prepare for the subsequent class discussion, encourage students to summarize doubts, difficulties and learning experiences, and then share them in the exchange group.

3.2.2. Classroom Teaching Implementation

The teaching implementation of the flipped classroom is implemented in accordance with the prior plan. Teachers can divide the classroom teaching into 2 sessions, each spending 3 hours. Students are randomly divided into 4 groups and in the first lesson, they are taught in the form of questions. List different questions according to the knowledge points, and then organize and guide students to have group discussions around the problems, and each group selects 1-2 student representatives to make reports; Teachers organize and summarize the results of questions and discussions; Through case teaching in the classroom, 4 typical clinical cases can be selected according to the number of groups, and one case can be randomly assigned to each group to simulate case discussion in clinical practice. Students conduct group discussions, mainly to explore medical history, general examination, specialized physical examination, auxiliary examination, diagnostic differential diagnosis, treatment plan, complications, treatment plan, etc. Finally, the results of the exploration are summarized, and each group selects representatives who are different from the previous class to answer questions and summarize the report. Other groups listen to the answers and evaluate, and in the process can ask supplements, questions, and then be guided by the instructor, correcting errors, etc. At the end of the course, the teacher summarizes and answers the questions that arise during the discussion. Students should be guided to take the initiative to consult domestic and foreign literature, cases, etc. in combination with specific problems, and then they can continue to discuss in the exchange group.

Teachers should systematically organize teaching activities in classroom teaching to adapt to students' learning conditions, internalize the knowledge learned, and arrange it every half month to flip the classroom teaching mode. The actual operation of classroom teaching can be carefully divided into four stages, which can be summarized as:

(1) Problem induction: In the flipped classroom, problem induction can be said to be a crucial content. Before the classroom activities, the teacher should summarize the completion of online teaching video viewing, material learning, and test homework, collect them in the form of questions, and summarize the problems that arise during the lesson in detail, and then explain them intensively.

(2) Teamwork: Oral and maxillofacial surgery has many practical operations, such as oral mucosal suturing, bandage bandaging, etc., which require teamwork to complete classroom learning. Teachers can design specific homework objectives according to the characteristics of the practical training course, and students will carry out practical operations according to their understanding after watching the teaching video, and the group members will participate in the discussion together. Teachers patrol the practice and provide guidance and explanation of the difficulties encountered in the process.

(3) Teacher guidance: Provide students with common clinical cases and difficult problems for students to learn and discuss. Students can choose topics according to their own understanding and interests, and then explore independently, work in teams, and cultivate a sense of independent innovation. Optimize the course structure of oral and maxillofacial surgery in a variety of ways, make classroom interaction more in-depth, and enable students to better learn based on cases, problems and teamwork, thereby increasing students' motivation to learn.

(4) "Dialogue and Communication": This is the key part of flipped classroom teaching. Brainstorm and expand ideas, and the results and experiences gained by students after completing learning tasks can be presented in class. Students and teachers can have face-to-face communication and discussions, exchange learning experiences, and share their own experiences. Many intractable diseases in clinical medicine are solved through teamwork and collective intelligence. During the study stage of oral and maxillofacial medicine, similar exchange activities are carried out to lay a good foundation for future clinical internships.

3.2.3. Online Learning Resources

An important part of online flipped classroom teaching is the production of online teaching videos. Not only can the teacher's teaching content be recorded into a video and uploaded to the Internet, but also a subject problem can be made into a simplified case explanation video, such as the classification of impacted teeth, the treatment principle of jaw fracture, etc. Usually no more than 10 minutes to maintain efficient concentration. The content of the recorded video can include literature review, teaching PPT, animation demonstration, case data summary, surgical guidance, etc. Qualified teachers can use professional photography and post-editing to form targeted, complete and diversified teaching videos. Facilitate students' access to knowledge.

When making instructional videos, you can add a Q&A session after explaining the key knowledge, so that students can continue to watch after answering, and guide students to think in stages. If there is something you don't understand, you can always look back at it, or you can record the problem for later discussion. After the course, quizzes and homework are arranged to test students' comprehension to ensure the effectiveness of subsequent classroom teaching.

3.2.4. Evaluation and Feedback

Teachers will summarize the group report and the completion of homework, evaluate and analyze the common problems and special problems that arise therein, and summarize the problems in teaching, discussion, experiments, homework and other links; Teachers and students work together to assess feedback, and while evaluating learning outcomes, they also value the evaluation of the learning process. At the same time, teachers can also organize temporary classroom examinations to keep abreast of the teaching effect; The test method should be considered holistically, and the flipped classroom model should pay more attention to students' daily learning attitude and homework completion. Students' final grades mainly include each semester's quiz results, online discussion participation, homework completion, lab group results, and final exam results. By refining the evaluation criteria for the final assessment, the assessment results are more objective and comprehensive, and the drawbacks of evaluating students with a single assessment are avoided. Moreover, through this kind of normalized assessment, students' ordinary performance is more tested, so that students understand that learning is important in accumulation, and they must practice martial arts regularly to improve themselves, rather than relying on temporary Buddha's feet.

4. Conclusions

The application of the flipped classroom teaching mode based on "Internet +" to the professional learning of oral and maxillofacial area is a new breakthrough in the traditional teaching mode, which expands the teaching space, allows students to have more time for independent inquiry, cooperative communication, stimulates students' enthusiasm, and helps to cultivate students' clinical thinking and practical operation ability. Of course, this teaching method is still in the exploratory stage, and there are still shortcomings, which requires educators to actively explore and constantly improve the method to deepen the teaching effect.

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