

The Trial of Hybrid Teaching in Pathology Teaching of Nursing Specialty

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Abstract: Hybrid teaching is a kind of "SPOC (small private online course)" and "offline" teaching which combines the advantages of online teaching and traditional teaching^[1]. Through the organic combination of the two forms of teaching organization, students' learning can be led from shallow to deep^[2].

"Flipping class", put forward by the Wesley Baker J, change the traditional teaching method of "teachers teach in class, students do homework after class", Students study before class, then display the study results in the class, the teacher comments, guides, corrects the students^[3].

PBL (Problem based learning) refers to problem-oriented learning or project-oriented learning. It is originated from medical education in the 1950s^[5].

Under the guidance of teachers, "student-centered, problem-based", through the form of group discussion, students independently collect data around the problem, find and solve problems. PBL cultivates students' autonomous learning ability and innovative ability of the teaching model.

CBL teaching method is a group discussion teaching method based on clinical cases. Teachers design related problems, guide and enlighten students to discuss around designed problems^[8].

First, select the typical cases. Let the students prepare the knowledge in advance; observe the gross appearance pictures and slices under the microscope on the digital cloud platform. Students should use multidisciplinary knowledge to draw up the main points, outline of the case analysis and make a PPT for the follow-up group discussion.

PPT will be presented by 1-3 students. Then other students in the class can ask questions freely. At last, teachers correct, comment based on exposed problems one by one, then grade the students' work.

Mixed face-to-face teaching, flipping class, PBL and CBL (case-centered learning methods) are the hybrid teaching models we are trying.

Introduction

Hybrid teaching is a kind of "SPOC (small private online course)" and "offline" teaching which combines the advantages of online teaching and traditional teaching^[4]. The ultimate goal of hybrid teaching is not to use online platform, not to build digital teaching resources, nor to carry out innovative teaching activities, but to effectively enhance the depth of most students' learning. If we admit that Pathology is a science, we should agree that there is a relatively simple path to go in learning, and there should be relatively stable laws. We should not be confused by the so-called different disciplines, teaching uncertainty and other superficial phenomena. There are scientific laws in different types of learning, and the teaching of these types of content is also regular. We should strive to achieve the goal of improving students' learning depth according to the rules of learning and teaching.

Pathology is an important basic course of medicine, a bridge between basic medicine and clinical medicine, and a compulsory course for every medical student. It plays an important role in medical theory and experimental teaching

1. Flipping Class

In the process of teaching, we first try to adopt the "flipping classroom" teaching mode on some contents, which is welcomed by the students.

The flipping class or inverted classroom refers to readjusting the time inside and outside the classroom and transferring the decision of learning from the teacher to the student ^[1]. In this teaching model, the precious time in the classroom allows students to focus more on active project-based learning and work together to solve the challenges of problems, in order to gain a deeper understanding.

After that, we compare the teaching effect of flipping classroom with traditional face-to-face teaching, and find that the traditional teaching method is superior to the flipping classroom in acquiring knowledge.

2. PBL

Because of the epidemic Coronary virus19, this year we adopted PBL teaching, that is, students learn independently before class, teachers arrange problems to discuss on line.

PBL, the problem-oriented teaching method is a student-centered education. It is a "student-centered, problem-based" teaching mode under the guidance of teachers. Through the form of group discussion, students collect information independently around problems, discover problems, solve problems, and cultivate students' autonomous learning ability and innovative ability.

Process of PBL

1).Teacher ask questions in advance. The teachers should prepare the questions before class. This step not only requires teachers to be familiar with the teaching content, but also to fully understand the situation of students. This is the basis for the successful implementation of problem-driven teaching methods.

2). Analyze the problem. This stage is fulfilled by the activities of the students. The whole class can discuss in groups, so that each student can put forward their own views. At this stage, teachers mainly play a leading role, when discussing the meaning of off-topic or students misunderstand the problem, give timely reminders and guidance.

3). Solve the problem. That is, on the basis of the previous stage of analysis, let students put forward solutions to the problem. Students can present their opinions with the class in the form of a report.

4). Outcome evaluation. It includes self-assessment, group mutual evaluation and teacher evaluation. the evaluation content is the overall performance of the group, the rationality of problem-solving methods, personal contribution and so on.

Problem design is the basis of PBL teaching method. Whether the problem design is scientific or not is directly related to the success or failure of teaching. Generally speaking, problem design should follow the following principles ^[6]:

1). Clear goals

The problem design must revolve closely around the teaching goal, the teacher must understand the teaching material and the student's concrete situation as far as possible, the design question must be clear.

2). from shallow to deep

In the design of problems, students should be given a clear sense of hierarchy, from easy to difficult, in order to enhance students' self-confidence, stimulate students' interest in learning, and promote students to think positively.

3). Appropriate difficulty

If questions are too simple, it will be difficult to arouse students' interest, but if they are too difficult, students will be afraid.

4). for all students

When designing problems, we should pay attention to arouse the enthusiasm of each student. We strive to let everyone have the opportunity to play and perform, so that everyone can participate and has a harvest ^[7].

During the implementation of the PBL, we find that the main problems are: it is difficult to effectively supervise the students' extracurricular learning input, and some students are not active enough to participate in the discussion.

3. CBL

The great difference between PBL and CBL (case based learning) is that when doing PBL, teachers take the problem as the starting point of learning. While doing CBL, the teachers first explain associated knowledge. Under the premise that the students have grasped certain knowledge, then they will make the case analysis^[9].

Pathological teaching is closely related to clinic, and CPC (clinicopathological conference) is a routine activity in hospitals. We selected 5 cases of inflammation, tumor, cardiovascular, respiratory and digestive diseases. Teachers help students to interpret clinical symptoms with pathological. Through case analysis; students are helped to prepare for future clinical study and nursing clinical work

Mixed traditional face-to-face teaching, flipping classroom, PBL and CBL are the hybrid teaching models we are trying.

In recent years, our school has built a digital campus network with wireless network covering the whole campus. Resources on the network are very rich. There are many native and foreign language databases for inquiry, which can basically meet the needs of undergraduate extracurricular autonomous learning. We guide undergraduate students to use these databases, strive to expand their professional thinking, let them understand the changing field of medical treatment, improve students' autonomous learning ability, so they can understand teachers' theory and experimental teaching more deeply. In addition, students basically have computers. School libraries also provide free use of computers, so the hybrid teaching model of SPOC (small private online teaching) implementation conditions have been basically available.

In the new era of network information explosion, we combine classroom content with network education in pathology theoretical and experimental teaching, construct a cooperative learning environment with the help of digital technology, and integrate network curriculum resources and pathology teaching organically. We set up an online learning center which has a synchronous learning platform on the mobile phone. And we upload PPT, teaching videos, designed questions and cases (including associated gross picture and slices) to the learning platform, then we set up pathology learning QQ group and WeChat group. Inform students in the group to complete online learning and discussion through PPT, video and other teaching resources before class. For uploaded cases and questions, teachers can provide students with specific bibliographies, and some valuable website addresses for students to consult relevant materials. After the discussion, the students are required to record the analysis ideas and results in writing, and to make the PPT documents for the class speech in groups.

4. Discussion

Advantages of flipping class

1) It helps to improve students' ability to solve practical problems. Before class, students can know more clearly which problems confused them, and then they solve them by asking teachers, classmates, Internet, books and so on. After learning, the problems are summarized in the form of group discussion, and finally the learning results are shown to everyone in PPT form. In the process, their ability to solve practical problems is improved.

2) It helps to increase teacher-student interaction.

If students have questions after watching the teaching video, they can ask questions to the teacher through QQ and wechat groups or on discussion section of learning platform on line. The teachers give answers, so the teacher's role is really transformed from the presentation of the content to the instructor of the study. In this way, the teacher can know the commonness and

individuality of the students' questions before the classroom teaching, and increase the interaction between teachers and students in the process of learning

3) It has higher requirements for teachers' professional knowledge

In "flipping class" teaching mode, teachers not only prepare before class, teaching knowledge to students, but also emphasis on communicate with students. Teachers listen to students to explain the content of the subject, discussion, and then communicate with them. Teachers have to be familiar with involved medical professional nouns and associated knowledge, so that students can deal with all kinds of problems.

The female proportion of nursing students in our school is high. Most students study hard and obey the teacher's request. Some girls are easily nervous and not used to showing themselves in front of the class. They need our guidance and encouragement.

Moreover, this teaching mode requires teachers not only have the knowledge of this subject, but also have the knowledge of medical related subjects. It is a challenge for teachers to learn and acquire medical knowledge in all directions.

Flipping class is an attempt to reform medical pathological teaching for nursing undergraduates. Although there are some shortcomings, such as students are lack of presentating skills and emphasis on teaching, and they have non-standard PPT making, etc., it has made a great breakthrough in improving learning effect and cultivating autonomous learning ability, and has also been widely recognized by students.

Advantages of PBL

1). PBL makes students' learning exploratory and active. PBL is student-centered and problem-based. Students have to question, judge, compare, choose and analyze, synthesize and generalize their knowledge, so that they can solve the problem through a variety of thinking and cognitive ways, which makes students' learning change from passive to active, and explore the answer and essence of the problem.

2). PBL makes students' learning participatory. PBL is based on problems to organize students to learn. It requires students to learn through or around problems. Problems become the motivation of students to learn and develop comprehensive thinking ability and the ability to solve problems.

3). PBL can stimulate students' interest in learning, develop the ability to think and solve problems, and create a relaxed and active learning atmosphere for students. They can speak freely and get information from other discussants.

Teaching Reflection of PBL

Some students were enthusiastically participated, while others didn't involve too much. They raised more questions while dicussed those designed ones. Sometimes those new questions were far deviating from theme.

Advantages of CBL

1).It has a real clinic case. Students think around the case, find information in textbooks and on line, then solve the problems It is not only helpful to arouse students' subjective initiative, but also to cultivate students' learning and practice ability.

2). In the course of explanation, the relationship between disciplines is strengthened. The horizontal relationship between disciplines is combed, and unnecessary repetition between disciplines is avoided effectively. It is not only conducive to the integration of information between disciplines, but also of great significance to improve students' clinical practice ability.

Teaching Reflection of CBL

It lies in the need for more teaching equipment. And it changed the basic theory knowledge into the clinical case discussion CBL the teaching mode, which may miss some contents ^[10].

References

1. New Hybrid Teaching Strategies for Higher Vocational English Based on Flip Classroom, Yulixia, Liufen, Lihuijun, Academic Education Monthly 2018,11:P104-111

2. Research and practice of hybrid teaching model of trinity, Dong, X.-P. ; Yu, B. Eurasia Journal of Mathematics, Science and Technology Education, 2017, Vol.13(8), pp.5589-5596
3. Experimental research on college English flipping classroom teaching based on SPOC, Zhang, H. Quarterly Journal of Indian Pulp and Paper Technical Association, 1 November 2018, Vol.30(5), pp.285-291
4. Flipping class: Why student expectations and person-situation fit matter, Beenen, G. ; Arbaugh, B. 78th Annual Meeting of the Academy of Management, AOM 2018, 2018
5. Research of the Application of PBL Teaching Mode to Basic Computer Education in Colleges, Wu, Peng ; Liu, Qi ; Shi, Heng, Applied Mechanics and Materials, Dec 2010, Vol.44-47, p.3374
6. Effect of a PBL teaching method on learning about nursing care for patients with depression, Arrue, Marta ; Ruiz de Alegría, Begoña ; Zarandona, Jagoba ; Hoyos Cillero, Itziar, Nurse education today, May 2017, Vol.52, pp.109-115
7. PBL teaching model research based on the entrepreneurial firm practice teaching platform - A case study of Ningbo Bo-Yuan entrepreneurial firm, Meng, X.-M. ; Ren, G.-Y. Journal of Advanced Oxidation Technologies, 2018, Vol.21(2)
8. Application of CBL teaching with paper review teaching method in ophthalmology resident teaching, Hu, J.-Y. ; Chen, Y. ; Hu, P. ; Wu, Q. International Eye Science, 8 October 2017, Vol.17(10), pp.1925-1927
9. Application of classic Chinese medicine theory in acupuncture CBL teaching rounds, Han, Dexiong ; Chen, Xiaojun ; Ma, Ruijie ; Lin, Xianming Han, Dexiong (correspondence author) ; Han, Dexiong (record owner), Zhongguo zhen jiu = Chinese acupuncture & moxibustion, January 12, 2018, Vol.38(1), pp.93-95
10. CBL Significance in Pathophysiology Teaching, Yanhua Zhang, Haifeng Zhang, YueLi, Xiaochun Pen, Health 2018, V12 , P1673-1678