

Discussion of the Theory-practice Integration Teaching Reform of Oral Medicine

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Abstract —Oral medicine is an important clinical subject of stomatology for higher vocational education. This article makes a discussion of the theory-practice integration teaching reform of oral medicine about supporting the teaching outline, lectures/textbooks, perfect teaching condition, a high quality of “Double Teachers” and scientifically effective teaching evaluation system.

Keywords-Oral medicine; Theory-practice integration; Teaching reform; Discussion

I. INTRODUCTION

Oral medicine is a clinical subject with strong feature of Synthesis, application and practice. By the theory-practice integration teaching, the teacher not only requires students to have a solid foundation of theoretical knowledge, but also cultivates students' ability of comprehensive application of knowledge, clinical thinking and clinical practice^[1]. However, there is seriously disarticulated phenomenon between theory and practice, teaching and learning since the teacher mainly uses the traditional theory for a long time. Applying this teaching method in Oral medicine, Students cannot understand and digest the basic concept, principle and the operation process. According to these phenomena, the author probe into the theory-practice integration teaching reform of oral medicine.

II. CONSTRUCT THE COMPLETE THE THEORY-PRACTICE INTEGRATION TEACHING SYSTEM

To implement the theory-practice integration teaching of oral medicine and achieve good teaching effect, there must be a complete teaching system: supporting the teaching outline, lectures/textbooks, perfect teaching condition, a high quality of “Double Teachers”, and scientifically effective teaching evaluation system.

A. Compile syllabus and lectures/textbooks according to the requirements for the theory-practice integration teaching

(1) Compile the syllabus of the theory-practice integration teaching of oral medicine

The syllabus is the teaching program, which should reflect teaching content, knowledge point and time allocation.

For highlighting the practical requirements and making the teaching process based on rule, the syllabus of the theory-practice integration teaching of oral medicine should be distinguished from the general teaching syllabus.

The lectures/textbooks of the theory-practice integration teaching of oral medicine is divided into 4 module such as tooth disease, dental pulp and periodontal disease, periodontal disease and oral mucosal disease, 7 tasks and 36 projects according to the modular structure and clinical criteria. Oral medicine consists of 144 hours. Each project has 4 hours using the mode of 2 hours' theory and 2 hours' practice (Table 1).

According to the task and the project, the teacher must arrange course sequence, distribute the teaching hours of the different content to ensure teaching step by step. Through the theory-practice integration teaching, students not only can deepen understanding the theoretical knowledge, but also can use theoretical knowledge to guide the practical operation and solve the practical problems encountered in practice.

(2) Compile the lectures/textbooks of the theory-practice integration teaching of oral medicine

Lectures or textbooks are the basis for the implementation of integrated teaching. According to the teaching objectives and the teaching task of the medical college and the syllabus of the theory-practice integration teaching of oral medicine, compiling with the scientific and practical principles, Paying attention to the practicability and maneuverability, teachers are organized to carry out repeated discussions and Selectively integrate for traditional teaching content and make the appropriate adjustments about the depth and breadth of the content, then taking project as the guide, taking task driving as the main body, taking ability as standard, taking skill training as the main line, compile the lectures /textbooks of the theory-practice integration teaching of oral medicine. Each project or task contains relevant theory and practice and breaks the phenomenon of the disconnection between theory and practice and the relatively concentrated teaching.

1) Related knowledge section The theoretical knowledge related to project or task is reorganized for sufficient degree and we must try to make it from the theoretical teaching material.

2) Skills section Skill section must be emphasized the training of basic skills, outstanding operating essentials and difficulties, and strive to enhance the students' practical ability

In the process of theory and practice integration, the design of teaching task should comply with the following

principles: first, the theoretical and practical knowledge is integrated closely around the task; second, in the setting of appropriate project, the theoretical background must be progressive in a certain way;

Table 1 curriculum schedule (4 hours / project, a total of 144 hours)

Module (hours)	task	project
Dental disease (52hours)	Task 1 caries prevention	project1 caries etiology,clinical manifestation Project2 the basic principles of cavity preparation Project3-5 class I-V cavity preparation Project6 silver amalgam filling Project7 composite resin restoration Project8 glass ionomer filling Project9 the repair of large area defect Project10 treatment of deep caries, complications and treatment
	Task2 Non caries prevention	Project11 development abnormalities of teeth Project12 dental injury Project13 case analysis
Dental pulp and Periodical disease (52hours)	Task3 clinical feature	project14 periapical periodical tissue characteristics of pulp project15 reducible, acute pulpitis project16 chronic pulpitis Project17 pulp necrosis, calcification, internal absorption Project18 acute, chronic apical periodontitis
	Task4 treat	project19 emergency handling Project20-21 anterior, posterior opening the pulp chamber Project22-24 root canal therapy Project25 mummification of pulp Project26 resinifying therapy
Periodontosis (24hours)	Task5 periodontal base	project27 periodontal disease pathology project28 the etiology of periodontal disease
	Task6 Treatment	project29 periodontal disease clinical manifestation Project30 supragingival scaling Project31 sub gingival curettage Project32 stabilization of loosen teeth
Diseases of oral mucosa (16hours)	Task7 prevention and control	project33 oral mucosal disease project34 oral mucosal ulcer disease Project35 oral mucosal stripe disease Project36 lingual diseases

third, every project should not be need for too much theoretical knowledge and cause the teaching organization more difficult; fourth, a project shouldn't be expected to involve all issues of the ability training, So each project should have emphasis. While teaching,learning and doing, both teachers and students construct the quality and skill training framework, enrich the classroom teaching and practice teaching, improve teaching quality.

B. Strengthen practice teaching environment construction; construct the support platform of the of theory- practice integration teaching.

A good teaching environment is the material guarantee of implementation the theory-practice Integration teaching. An important feature of the theory-practice integration teaching is the same space and time, what put forward a very high request on the theory-practice Integration teaching sites which meet both the theory teaching and the practice

teaching, and what also put forward higher requirements on the quantity and quality of equipments. Our Oral medicine training rooms improve the real teaching environment and are suitable for the theory-practice integration teaching for being equipped with a set of multimedia equipment,5 sets of comprehensive oral simulation teaching Systems,a variety of model specimens and wall charts. In the teaching environment, using these head models,specimens,wall charts and multimedia, teachers can emphasize knowledge essentials and difficulties, and realize the organic combination of theory and experiment, and enhance students' clinical thinking ability and practical ability. Let students to find and solve the problems in practice, which achieve good teaching effect because of both saving the class hours and fully mobilizing the enthusiasm of the students' initiative and creativity^[2].

C. cultivates “Double-quality” teachers with high quality and guide the theory- practice integration teaching

“Double-quality” teachers are the fundamental guarantee of the theory-practice integration teaching [3]. In the traditional teaching mode, many teachers are only satisfied with completing the prescribed syllabus and the inculcating theoretical knowledge. Whether the students have accepted ,interested in and digested the theory knowledge, the teacher turned a blind eye, not to mention improving students’ clinical thinking ability,practical ability and solving actual problem ability. However, In the theory-practice integration teaching mode, the teaching focus have become from teaching to learning and doing,from learning to how to learn and do;Students also have become from passive listeners and the recipients to positive thinkers,explorers and participants. The teacher plays a decisive role in the theory-practice integration teaching process, how to create a good environment of the theory-practice integration teaching, how to guide the students from learning to learn and do, how to let students reach the highest realm of autonomous learning in the theory-practice integration from their point of view. In view of the very strong practice of the course, the teachers must be “Double-quality” ones who should have not only a solid theoretical foundation but also rich practical experience and comprehensive analytical ability of the theory-practice integration teaching materials. Each teacher must practice in the oral cavity hospital more than years and receive oral qualification, only in this way, teachers can understand the points of knowledge and find and correct students' incorrect operation and teach students standard operation methods in the practice process, and guarantee the implementation of the theory-practice integration teaching.

D. Establish scientific teaching evaluation system, correctly evaluate the teaching effect

Scientific and reasonable teaching evaluation systems play a very positive role in ensuring the teaching quality and promoting teachers’ teaching level and constantly urging students to seriously study [4].

(1) Teachers and students evaluate each other

The objects of evaluation include two aspects of teachers’ evaluation to students (Tab2) and students’ evaluation to teachers (Tab3). The content and method of teachers’ evaluation to students in accordance with the requirements of the outline should highlight the practical skills, at the same time, also consider the students’ basic theoretical knowledge, and emphasize the cultivation of students' comprehensive quality. Students’ total score consisting of theory,practice and interview scores is a evaluation standard for students to learn this course well. In ordinary teaching, it can not only test students on the theoretical knowledge, but also judge students’ ability to use the knowledge, ability to find and solve problems, So it makes a more comprehensive and scientific evaluation in urging the students to master the basic knowledge and practical skills. Students’ evaluation to teachers should be able to monitor the teachers’ teaching process, to ensure scientific teaching according to the requirement of teaching.

Table 2 Teachers’ evaluation to students

Assessment content reason	Score (Percentage)	Score	Losing
Basic theoretical knowledge	40		
Practical skills Technical essentials	10		
Operating steps	10		
Action specification	10		
Proficiency in experimental apparatus	5		
The overall evaluation of the works	10		
Finish on time	5		
Cooperation, learning attitude	5		
Verbal responses	5		
Total score	100		

(2) A wide range of evaluation subjects

Evaluation subjects include teacher’ evaluation,peer’ evaluation and students’ self evaluation.

(3) Various evaluation forms

1) Assessment mode: a) Speaking: students answer the teacher’s questions. b) Written examination: teachers distribute to students advance print good papers, and then students answer and hand over the papers, immediately the teacher read and explain. c) Operational skills test: 3-4 students randomly selected operate and are scored by their teachers and classmates.

2) Unit test and final test: The examination includes theory part and operation part.. All the questions were randomly written on 100 test cards. Students draw a card, for 5 minutes students answer theoretical questions orally, and then do experimental operation according to the whole process of operation; finally the teacher evaluates on the spot and points out the problems.

This evaluation system is conducive to urge teachers for teaching and mobilize the students to actively participate in various teaching activities, and ensure the theory-practice integration teaching comprehensively effective.

Table 3 Students’ evaluation to teachers

Assessment content	Score (Percentage)	Losing reason
Teacher-led,student-centered, practice as the main line	20	
Advanced teaching methods , teaching platform	20	
Basic teaching skills, Skilled and Standard teaching	30	
Good teaching rhythm and active teaching atmosphere	10	
Scientific and rational practice arrangement And good interaction	20	
Total score	100	

III. THE SPECIFIC IMPLEMENTATION OF THE THEORY-PRACTICE INTEGRATION TEACHING OF ORAL MEDICINE

According to the curriculum characteristics of oral medicine and the research of the theory-practice integration teaching reform for many years, taking the project3(class I cavity preparation) in the dental disease module as an example, let’s talk about the specific teaching design and organization process of the theory-practice integration teaching of oral medicine.

A. Preparation before class

Teaching time: the second week. The teaching location: oral simulation training room. Teacher: 3. Students:

random 30 formed a class, 2 people in each group. Teaching activities: student-centered, teacher-led, student can discuss with each other. Teaching method: each task must adopt the model of theory (two hours) and practice (Two hours). Teaching procedure: each project teaching must have a clear task requirement. Every operation process conforms to specifications and occupation standard. Based on practice, the teacher's teaching,demonstration and students' operation are combined.

(1) Teacher preparation: the teacher must prepare lesson plans and courseware put on work clothes,masks and hats, etc.

(2) Students' preparation: students must review the cavity related knowledge, such as Black cavity classification,the concept and position of class I cavity, preview the teacher assigned task and be familiar with the preparation principle,design method and steps of class I cavity.

(3) Equipment preparation: the experimental teacher must prepare class I cavity model, carving knife, ruler, various drill etc.

B. The concrete teaching arrangement of preparing Class I cavities

(1) Student group : 30 students were divided into 15 groups, each teacher is responsible for 5 groups.

(2) Each project teaching is a gradual improvement process. and practice is a alternating process of the theory and practice.

in fact the teaching process of the integration of theory while teaching,learning,doing and exchanging^[5-6] (Figure 1).

C. The evaluation of teaching effect

(1) Evaluation on students

Carry out a comprehensive evaluation on each student's theory (40 points), practice (55 points), verbal responses (5 points) by self-assessment,peer evaluation and teacher evaluation (Tab4) .

Table 4 the score table of students preparation Class I cavity

Knowledge classification	evaluation content	evaluation type	Score lost
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Theoretical knowledge	Black classification,		
	Preparation principle	written test	40
Practical skill	Configuration design	operation test	10
	Operating steps	operation test	10
	Standard action	operation test	10
	Choice and use equipment	operation test	5
	Overall evaluation of works	operation test	10
	Finish on time	operation test	5
	Cooperation, learning attitude	quality test	5
Verbal responses	what structure belongs to the resistance form and retention form?	Oral test	5
Total score			100

(2) Students' evaluation to teachers in the theory-practice integration teaching of oral medicine (Table 3).

(3) Comparison of the effects of the theory-practice integration teaching and traditional teaching (Table 5).

60~79 scores are rated as pass, 80~100 scores are rated excellent. Comparison of the 2 class, there was a significant difference (P<0.05), what illustrates the theory-practice integration teaching has more advantage than traditional teaching methods.

Table 5 the score Comparison of 2 class

Class	number of people	pass	excellent
The experimental class	30	6 (20.0%)	24 (80.0%)
The traditional class	32	27 (84.4%)	5 (15.6%)
Total	62	33 (63.2%)	29 (46.8%)

IV. SUMMARY

The strongly practical characteristics of oral medicine determines itself a theory-practice integration course. Therefore, in the teaching of oral medicine, teachers must change the traditional teaching concepts and teaching methods, and strengthen the theory-practice integration teaching in order to let students obtain the greatest knowledge in the limited classroom time and cultivate students' clinical thinking and practical ability and improve students' comprehensive quality of^[7].

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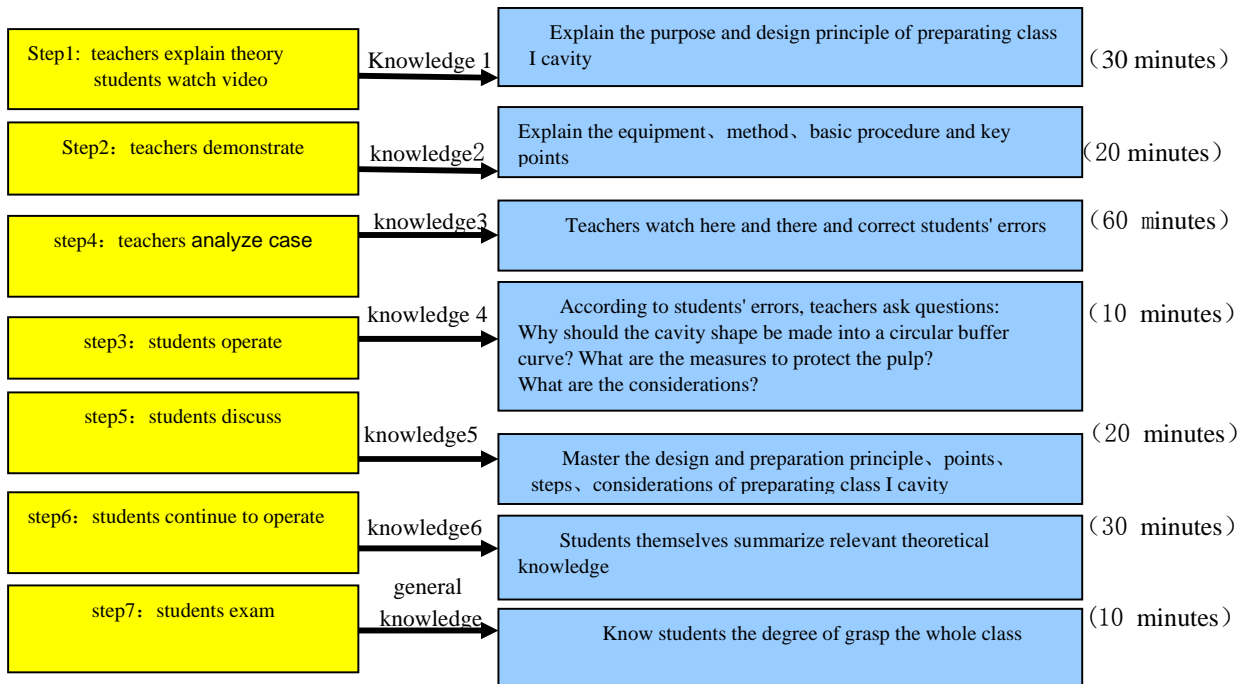


Figure 1 Implementation chart of the theory-practice integration teaching of oral medicine

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