

Research on online to offline Mixed Teaching Mode based on rehabilitation Function assessment -- Taking muscle tension assessment as an example

Rong Li

Xi'an Fanyi University, Xi'an Shannxi, 710000, China

Abstract: *With the development of the Internet, multimedia teaching technology and mature, compared with traditional teaching mode, Online to offline mixed teaching is more suitable for the training needs of rehabilitation therapeutics professionals, therefore, this paper will take the core course "rehabilitation function assessment" offered by the rehabilitation therapeutics specialty of Xi'an Fanyi College as an example, to explore the application of online to offline mixed teaching mode in rehabilitation function assessment.*

Keywords: *Online to offline; Mixed teaching; Case analysis, mind mapping*

1. Introduction

Rehabilitation function assessment is the core course of rehabilitation management. It is a basic professional skill that a rehabilitation therapist must master. Moreover, rehabilitation function assessment runs through the whole process of rehabilitation treatment, that is so-called "rehabilitation begins with assessment and ends with assessment" [1], and therapists are required to follow the principle of "no assessment, no rehabilitation", which fully reflects the importance of rehabilitation function assessment in clinical treatment. In clinical practice, rehabilitation therapists are required to have the ability to comprehensively analyze, to think independently and to deal with cases in clinical rehabilitation evaluation. Therefore, in order to cultivate professional rehabilitation treatment talents suitable for clinical needs, the curriculum of rehabilitation therapeutics needs to be reformed urgently. We need to break the teaching mode of "teacher-centered and student-assisted" in the traditional theoretical classroom, and gradually establish the teaching mode of "student-centered and teacher-assisted".

According to literature reports, online and offline mixed courses have been used in many rehabilitation therapeutics courses. For example, online and offline interactive platforms have been applied in community stroke rehabilitation in China with good results [2]. Zeng Dexin [3] applied the online and offline mixed teaching in the teaching of rehabilitation assessment technology in Higher Vocational Colleges to meet students' personalized learning needs and change students' learning concepts and learning methods. Zhang Jing [4] applied the online and offline mixed teaching to the course of rehabilitation medicine. The course effect is reflected by case test and questionnaire survey. The case test score shows that students have a good grasp of the clinical diagnosis of the case, followed by functional diagnosis and precautions, and poor grasp of the specific methods of rehabilitation treatment.

Therefore, according to the training needs and characteristics of rehabilitation therapeutics professionals, I have made relevant adjustments and improvements to the teaching of the rehabilitation function assessment course at this stage. Now I share with you the teaching design of online to offline mixed courses in the chapter of "muscle tone assessment" of this course as an example. Please criticize and correct.

2. Basic information of the course

- 1) Course Name: Rehabilitation function assessment
- 2) Course attribute: Core course of rehabilitation therapy specialty of Xi'an Fanyi University, online to offline mixed courses.

3) Online courses: Excellent courses on the online platform of the school, and rehabilitation function assessment by Professor Yang Yanping of rehabilitation therapeutics of Xi'an Fanyi University.

3. Course learning objectives

Through the study of this course, students can systematically understand the basic concepts of rehabilitation evaluation, the most commonly used rehabilitation evaluation methods and some clinical evaluation scales, so as to lay a solid foundation for entering the clinical course of later rehabilitation therapeutics.

By actively exploring the teaching method of "taking teachers as the leading and students as the main body", which can increase students' participation in classroom teaching, and actively guide students to make independent cognition and thinking of classroom contents and things; Encourage students to actively participate in class discussions and learn to use mind mapping to summarize and sort out knowledge, so as to improve students' autonomous learning ability and knowledge induction and refining ability.

3.1 Knowledge, ability and quality objectives

3.1.1 Knowledge objectives

- ① Familiar with the influencing factors, indications and contraindications in the evaluation of palm rehabilitation, as well as the common evaluation methods of dysfunction in clinical practice;
- ② Familiar with the anatomical structure and physiological process of various functional activities;
- ③ Understand the current international evaluation methods and means.

3.1.2 Capability objectives

3.1.2.1 Professional competence

Have the ability to skillfully use rehabilitation technology and systematically master the basic knowledge and skills of rehabilitation technology; Have the self-study ability to obtain the latest knowledge in the field of nursing and rehabilitation. Skilled in using motor function evaluation methods to evaluate the motor function of patients; Be able to use various scales to evaluate various operation ability, sensory function, pain, psychological function, environment and quality of life; Be able to use precision instruments to evaluate various functions;

3.1.2.2 Method capability

Be able to formulate the steps of rehabilitation work plan and put forward ideas to solve various clinical practical problems; Have the ability to learn new knowledge and technology, as well as the ability to obtain information by modern technologies such as data query, literature retrieval and computer, and the ability to evaluate work results; Have the ability of management and interpersonal communication, and the ability to continuously acquire new knowledge and innovation; Have strong adaptability and be competent for various rehabilitation related technical work.

3.1.2.3 Social capacity

Have the awareness of professional work, safety production, environmental protection and professional ethics, and be able to abide by relevant laws and regulations; Have medical safety awareness and the ability of coordination and cooperation among departments; Have the ability to collect and process rehabilitation information; Have lifelong learning ability to adapt to career changes.

3.1.3 Quality objectives

- ① Have good quality awareness and sense of responsibility;
- ② Have a serious and rigorous learning and working attitude;
- ③ Have the good habit of consciously maintaining clean tools and working environment, and be able to abide by operation specifications and safe and civilized production procedures;
- ④ Have the awareness of positive thinking and problem solving;

4. Course teaching methods

This course adopts the mixed teaching mode of online to offline. Thereinto, the online part is introduced into the evaluation of rehabilitation function, which is opened by Professor Yang Yanping of rehabilitation therapy specialty of Xi'an fanyi University[5];The offline courses are offered in the wisdom classroom of Xi'an fanyi University, three class hours a week.And the offline courses are mainly composed of "mind mapping" and "case analysis" teaching modes.Mind mapping helps students systematize and hierarchy huge and complex theoretical knowledge, so as to improve students' ability to summarize knowledge and promote students' memory of knowledge [6];According to the needs of teaching objectives and teaching contents,case analysis refers to the introduction of clinical case course, raising problems, fully mobilizing students' learning interest and initiative, and cultivating students' ability to analyze and deal with problems.Students are required to enter the learning of new knowledge with problems, to analyze and deal with the problems in the case in combination with the learned content, so as to understand and use the learned knowledge to solve practical problems [7].

4.1 Online teaching design

4.1.1 Xue Tang Online learning

Students are required to learn the course content independently and master the corresponding theoretical knowledge of the rehabilitation function assessment in Xue Tang online before the class.When learning, set up a learning group to study in the form of a group.The doubtful points and difficult problems encountered in learning shall be discussed in groups first, and the problems that cannot be solved after group discussion shall be summarized and answered in offline classes. In addition, it is required to sort out the chapter knowledge in the way of mind mapping in group learning.

4.1.2 Case analysis

The specific cases are as follows:The patient Lei Mou, male, 47 years old, a businessman, was treated for 3 months with sudden left limb inactivity. The patient had a sudden headache when playing mahjong 3 months ago, and gradually developed weakness in the left limb, poor activity, unstable handheld objects and weak walking of the lower limbs. The head CT examination in the local hospital showed that the right basal ganglia had intracerebral hemorrhage. After the treatment of hemostasis and nerve nutrition in the local hospital, the intracranial hemorrhage stopped, but the left limb was still ineffective, the elbow, wrist, palm and finger of the upper limb were flexed, the lower limb was extended, and the foot was pendulous and varus.Please answer the following questions in combination with what you have learned:① What are the diagnostic considerations for this patient? ② What is the main complaint? ③ What dysfunction exists? ④ How to evaluate its dysfunction.Students will discuss and analyze the cases in groups through learning in advance. In offline class, group representatives will answer the answers and other students will supplement.

4.2 Offline teaching arrangement

4.2.1 Course preparation

Before class, students enter the classroom 5 minutes in advance and sign in on the learning pass.

4.2.2 Case report

Randomly call names in offline class and analyze and report the four problems in the case in the form of groups.Randomly point to the first question in the first group to analyze the case: what are the diagnostic considerations of the patient? After that, the teacher guides students to analyze problems and establish ideas for disease diagnosis and analysis;The second group analyzes the second question in the case: what is the main complaint? After that, the teacher guided the students to further analyze the cases in combination with the definition of the main complaint and the cases.The third group analyzes the third question in the case: what dysfunction exists? Teachers guide students to understand what dysfunction is from the perspective of rehabilitation, so that students can understand the research object and concept of rehabilitation, and the similarities and differences with other disciplines;The fourth group analyzes the fourth question in the case: how to evaluate its dysfunction? Guide students to evaluate the type, nature and severity of patients' dysfunction in combination with their learned knowledge, so as to make students understand the importance of rehabilitation function evaluation in rehabilitation treatment, achieve "no evaluation and no recovery" in clinical rehabilitation treatment in the future.

After the students in each group report, other students can express their own opinions and ideas according to the report, supplement and discuss, and the teacher will guide and analyze them. The teacher can give extra points in the learning pass according to the students' performance for the accumulation of classroom performance scores in the process assessment. After the overall case analysis, the teacher summarized the ideas of case analysis, emphasizing that rehabilitation medicine takes dysfunction as the core and deals with patients' functional problems. And lead to the content of today's lecture - muscle tension evaluation.

4.2.3 Knowledge learning

After the case report, the team leader is required to explain the knowledge framework of muscle tension chapter according to the mind map established by the group discussion, and other team members can participate in it, so as to systematize, level and simplify the huge knowledge. Finally, a systematic and comprehensive thinking map of knowledge points is established for the knowledge of this chapter. According to the established mind map, the teacher will talk about the knowledge of this chapter here, and emphasize the key points and difficulties of this course.

4.2.4 Discussion on doubtful points

After the new knowledge lecture, reserve 10 minutes to answer the students' doubts and questions in the theoretical knowledge learning of muscle tension chapter. Before answering the doubtful question, teacher should first know the mastery of the doubtful question by other students in the class, and require the mastered students to explain independently, then the teacher supplements according to the students' explanation last.

4.2.5 Questionnaire and classroom assessment

After the course, the in class test and anonymous questionnaire survey will be conducted on the learning pass. On the one hand, it is to understand the students' mastery of the knowledge of the course for the purpose of testing the learning effect; on the other hand, it is to understand the problems and suggestions existing in the teaching of students' online to offline mixed courses, finding them in time and improving them in time, so as to continuously improve the course quality.

5. Summary

In clinical treatment, rehabilitation therapists are required to have a strong ability to analyze and deal with cases. Therefore, the mind map combined with case introduction teaching method is to take the rehabilitation clinical cases as the guide, giving cases, asking students to find problems, and then to draw a mind map according to their own understanding. This process can not only improve students' ability to analyze and solve problems clinically, it can also fully mobilize students' learning initiative and enthusiasm.

Introducing cases into the classroom requires students to discuss and report cases in groups, which can promote mutual cooperation among students and further strengthen students' team consciousness [8], which not only improves students' independent judgment ability, problem analysis and problem-solving ability, but also requires students to think about problems from different angles through problem design, So as to improve students' innovation ability [9].

In the learning of theoretical knowledge, students are required to draw a mind map in the learning process. This method can exercise students' ability to summarize and sort out knowledge points, and make students learn to systematize and level knowledge, and strengthen students' memory of knowledge. In addition, the thinking mode of mind mapping is divergent thinking, which is based on radioactive thinking, starts from the central theme, integrates the rich materials in the mind through divergence and association, emphasizes logical thinking ability and innovation ability, can strengthen students' rapid understanding of the knowledge and the correlation between knowledge, and help students improve their clinical thinking and innovation consciousness [10] .

Online teaching can improve students' autonomous learning ability and enable students to make effective use of "fragmented" time after class. Compared with traditional classroom, this method virtually increases students' class hours [11]. Online to offline mixed teaching is conducted in groups. This method can exercise students' teamwork ability through group discussion, so as to adapt to the working form of rehabilitation cooperation group in rehabilitation medicine. In the solution of doubts in offline course teaching, giving priority to the students who have mastered to explain, can exercise the students' ability of problem analysis and language expression, increase the students' active

participation in the classroom, and truly realize the change of Classroom Role of "students first, teachers second".

References

- [1] Wang Sanhui, Zeng Dexin, Yan Yihong(2020). Application of online and offline interactive training courses in rehabilitation evaluation technology teaching [J]. *Health vocational education*,v.38; No.552(21):99-100.
- [2] Jia Shulei, Fang Xiaoqun, Feng Qiong, et al(2017). Application of online and offline interactive platform in community stroke rehabilitation [J]. *Chinese Journal of rehabilitation medicine*, 032 (003): 340-343.
- [3] Zeng Dexin(2019). Practice and experience of online and offline interactive teaching in Higher Vocational Rehabilitation Evaluation Technology Teaching [J]. *Health vocational education*,37 volumes, 16 issues, 65-67 pages.
- [4] Zhang Jing, Tan Yan, Qiao Na, et al. Implementation of online and offline Hybrid Teaching in rehabilitation medicine teaching [J]. *China continuing medical education*, 13 (8): 5.
- [5] School online. Rehabilitation function assessment [EB / OL] https://www.xuetangx.com/course/xafy10101003422/8024322?channel=i.area.learn_title.
- [6] Huang Guilan, Peng Yongmei, Zhang Hong, et al(2017). Application and discussion of mind mapping in rehabilitation teaching [J]. *Chinese Rehabilitation Theory and practice*, (8).
- [7] Yang Jie, Sun Yang(2013). Case teaching method of economic management specialty in Colleges and universities [J]. *Journal of Hebei Union University (SOCIAL SCIENCE EDITION)*,13 (4): 72-74.
- [8] Liu Hua, Zhang Tong(2010). Application of case teaching method in the teaching of clinical rehabilitation [J]. *Chinese Rehabilitation Theory and practice*, Vol. 16, No. 9, pp. 897-898, istic PKU CSCD, 2010.
- [9] Liu Yang, Tian Li, Li Dezhao(2016). Application of case introduction teaching in physiotherapy technology teaching in Higher Vocational Colleges [J]. *Health vocational education*,V.34; No.439(04):134-135.
- [10] Li Man, Xiao Xiaoxia, Peng Yingying, et al. Analysis on the strategy of applying arcs to the teaching of basic courses of medical information technology -- Taking Hunan University of traditional Chinese medicine as an example [J]. *Journal of Hunan University of traditional Chinese medicine* (8): 87-90.
- [11] Zeng Dexin, Yan Yihong(2019). [1] Zeng Dexin. Practice and experience of online and offline interactive Mu class teaching in Higher Vocational Rehabilitation Evaluation Technology Teaching [J]. *Health vocational education*, Volume 37, issue 16, page 65-6.