

# A Brief Probe into the Application of PBL Teaching Method in the Teaching of Surgical Nursing

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**Keywords:** Surgical Nursing; PBL Teaching Method; Application

**Abstract:** Experimental objective: to probe into the application effect of problem-oriented teaching model (PBL teaching method) in the teaching of Surgical Nursing. Experimental methods: two classes of Grade 2017 Nursing (junior college) in our school were selected as the research objects and divided into observation group and control group. The problem-oriented teaching model (PBL teaching method) was adopted for the observation group, while the conventional professional teaching method was adopted for the control group. After a period of professional guidance, the exam results of the two groups of students were compared, and PBL teaching method and conventional teaching method were objectively evaluated by way of questionnaire survey. Experimental results: various data of the observation group were obviously better than those of the control group. Experimental conclusion: the problem-oriented teaching model (PBL teaching method) is of practical significance to the teaching of Surgical Nursing.

## Introduction

Surgical Nursing is a compulsory clinical discipline for nursing students, which is both highly theoretical and practical. In the traditional teaching model, students are often passively indoctrinated with theoretical knowledge, which leads to a lack of depth in their understanding of learning contents, and over time, weakens their enthusiasm for learning and even results in their learning-weariness. This teaching model that theory is divorced from practice makes it impossible for students to flexibly apply theoretical knowledge to practice when facing clinical problems.

At present, the traditional teaching model can no longer meet the development needs of contemporary medical positions so that the problem-oriented teaching model (PBL teaching method) has emerged at the right moment. PBL teaching method is a freestyle, interactive and shared teaching model guided by typical cases, based on diversified and multi-level problems, and centered on students. The full implementation of PBL teaching method is helpful to cultivate students' abilities of independent thinking, problem analysis, and problem solving, and enhance their awareness of autonomous learning. Taking a higher vocational nursing school as an example, the introduction of PBL teaching method into the teaching of Surgical Nursing has greatly strengthened the overall teaching effect. The specific contents are as follows.

## Core Connotation of PBL Teaching Method

PBL teaching method is a problem-oriented teaching method. Its core connotation is to adopt the model of combining theoretical knowledge and clinical practice, guide students to establish a holistic medical concept, thoroughly grasp systematic and professional nursing methods, and enhance their awareness of nursing service. PBL teaching method emphasizes placing learning contents in multi-level and meaningful problem situations, solving problems step by step through learners' communication and coordination, and unscrambling the professional knowledge hidden behind the problems like spinning a cocoon, so that students can constantly enhance the ability to analyze and solve problems and develop a good habit of autonomous learning.

According to the differences in organizational structure and curriculum setting, PBL teaching method can be divided into classical PBL teaching method and non-classical PBL teaching method. When introducing PBL teaching method, most nursing teachers often combine their own practical teaching experience and the basic level of students to carry out an appropriate reform and adjustment of teaching model. However, looking at the application of PBL teaching method in the major of Surgical Nursing in various higher vocational schools, courses are mostly prepared by taking classes as the leading form and discipline boundaries as the benchmark, and a course teacher organizes students to have group discussions first and then class discussions. The tutorial system teaching model seems to be weakened and marginalized. Strictly speaking, these conventional teaching methods are not PBL teaching methods in the real sense, but just the teaching ideas, teaching steps and teaching methods are forced to conform to the classical PBL teaching method. Therefore, they are called non-classical PBL teaching methods. However, constrained by traditional teaching ideas, the non-classical PBL teaching method is still widely used in the teaching of Surgical Nursing in China.

## Experimental Objects and Methods

**Experimental objects.** Two classes of Grade 2017 Nursing (junior college) in our school were selected as the research objects, and 120 students were randomly divided into an observation group and a control group with 60 students in each group. There was no significant difference between the two groups of students in gender, age, entrance score, public basic course score and major basic course score so that the two groups were comparable.

**Experimental methods.** According to the unified arrangement of the Nursing Department, 6 to 7 practice nursing students per batch entered the Surgical Department for internship, and the whole internship period lasted for 4 weeks. One student was selected as the group leader from each batch of practice nursing students. During the internship period of each batch, two collective classes were arranged and each class lasted for 3 hours. In case of more complicated internship contents or special circumstances, the tutor can adjust class hours appropriately without affecting the normal work of the department.

The medical case and tutor used for the observation group and the control group were consistent, but PBL teaching method was adopted for the observation group, while conventional teaching method was adopted for the control group. The basic situation of collective teaching case is as follows:

The patient, male and 37 years old, has suffered from intermittent abdominal distension, anorexia and limb weakness for three and a half months. He experienced sudden vomiting 7 hours ago and vomited about 800ml of blood.

The basic vital signs of the patient are reported as follows:

Blood pressure 75/50mmHg (1mmHg=0.133kpa), pulse 120 times/min, respiration 22 times/min.

The results of abdominal color ultrasound and liver function test show mildly yellow sclera, impalpable liver under the rib, palpable spleen in the position of two fingers under the rib, and sign of ascites (+).

Blood test results: RBC $2.21 \times 10^{12}/L$ , WBC $2.34 \times 10^{12}/L$ , HGB68g/L, PT16. 2S

Teaching method of observation group. Raise questions: the tutor prepared lessons as well as a series of questions in advance according to the internship syllabus and clinical medical data, etc. One week before the collective class, the tutor distributed the case and guidance questions to group leaders who then distributed them to practice nursing students. Of course, the specific questions had to be adjusted by the tutor according to the guidance contents and progress. For example, ①What are the patient's pathogenic factors? ②How does the patient's disease develop? ③What aspects should be paid attention to in clinical nursing of patients? ④What nursing methods should be adopted? ⑤Does the patient's condition show signs of improvement?

Establish hypotheses and collect data: the group leader organized a discussion and assigns learning tasks before the collective class. Practice nursing students gained theoretical knowledge and accomplished tasks efficiently by reviewing class notes, consulting documents, browsing databases or consulting clinicians. As a result, students were trained to form good habits of independent thinking and autonomous learning.

Demonstrate hypotheses and make a summary: during the first collective class, the tutor organized a report and discussion, let students show their collected documents and analyze the related problems by use of multimedia teaching aids, and encouraged students to put forward their own opinions and discuss with other practice nursing students. The tutor should participate in the whole discussion, answer the questions of practice nursing students and guide them to think deeply. The group leader should record the discussion process and results to form a complete discussion report. The tutor should objectively evaluate the problem-solving situation of practice nursing students, and randomly raise basic and in-depth questions to investigate the students' mastery. After the discussion, the tutor may summarize the opinions of each group, analyze the controversial issues from multiple perspectives, then form a written discussion report, and keep it as a file.

After the first collective class, the tutor had to randomly select a hospitalized patient as a case, raise basic and in-depth questions, and urge students to consult documents again. During the second collective class, the tutor repeated the above teaching method for reinforcement, and organized a periodic assessment and questionnaire survey when nursing students were about to leave the department.

Teaching method of control group. After entering the department, the control group received the guided teaching model of routine practice nursing students, that is, one-to-one guided teaching + two collective classes. Combined with the above case, the tutor explained the theoretical knowledge of junior college to practice nursing students, raised clinical nursing questions to them, and required them to complete the analysis and defense.

Evaluation methods. The observation group and the control group took a propositional exam including 60% of basic knowledge and 40% of comprehensive analysis according to the requirements of the Surgical Nursing Syllabus after the practical training guidance in the department was completed. The teaching and exam separation model was fully implemented, the exam was arranged in a unified way, and exam papers were sealed and bound and then marked strictly with reference to standard answers. The school used its self-designed questionnaire to investigate the two groups of students.

Statistical methods. The exam results were expressed as mean±standard deviation ( $\bar{x}\pm s$ ), t test was used between groups, percentage (%) was used for school effect evaluation, and chi-square test was used.

## Experimental Results

**The exam results of the two groups of students are as follows:** The observation group consisted of 60 students with a total score of  $84.64\pm 4.48$ ; the score of basic knowledge was  $50.42\pm 3.86$ ; the score of comprehensive analysis was  $34.22\pm 2.42$ ;

The control group consisted of 60 students with a total score of  $78.54\pm 4.22$ ; the score of basic knowledge was  $46.68\pm 3.84$ ; the score of comprehensive analysis was  $31.86\pm 2.58$ ; the difference between groups was statistically significant ( $P<0.05$ ).

**The students' evaluation results on different teaching methods are as follows:** The evaluation indicators mainly included participation awareness, analytical judgment, inspired thinking, teacher-student communication, etc., and the evaluation was divided into three grades of "good, average and poor".

The observation group consisted of 60 students with participation awareness: 56 got good, accounting for 93.3%; 3 got average, accounting for 5.0%; 1 got poor, accounting for 1.7%; analytical judgment: 52 got good accounting for 86.7%; 6 got average, accounting for 10.0%; 2 got poor,

accounting for 3.3%; inspired thinking: 56 got good, accounting for 93.3%; 4 got average, accounting for 6.7%; 0 got poor; teacher-student communication: 55 got good, accounting for 91.1%; 4 got average, accounting for 6.7%; 1 got poor, accounting for 1.7%.

The control group consisted of 60 students with participation awareness: 10 got good, accounting for 16.7%; 30 got average, accounting for 50.0%; 20 got poor, accounting for 33.3%; analytical judgment: 40 got good, accounting for 66.7%; 10 got average, accounting for 16.6%; 10 got poor, accounting for 16.7%; inspired thinking: 38 got good, accounting for 63.3%; 20 got average, accounting for 33.4%; 2 got poor, accounting for 3.3%; teacher-student communication: 28 got good, accounting for 46.7%; 20 got average, accounting for 33.3%; 12 got poor, accounting for 20.0%

## Discussion

The practical teaching of surgical clinical nursing is an important link in higher vocational nursing education as well as a stage to promote the transition from practice nursing students to regular nurses, which is of practical significance. PBL teaching method is a problem-solving driven teaching model that inspires students' thinking. In the process of teaching, teachers should give correct guidance and urge students to analyze problems in depth.

**Stimulate students' subjective initiative.** The teaching contents of the major called Surgical Nursing are lengthy and jumbled, and the duration of two collective classes is relatively limited, which increases the teaching pressure to a certain extent. In the traditional clinical collective teaching model, the knowledge taught by teachers is often repeated with that in textbooks, which makes students unable to obtain the nourishment of new knowledge, and a lot of knowledge is relatively simple.

In this regard, the implementation of PBL teaching method is helpful to guide students to consult documents, think independently, and discuss in groups, then consolidate basic knowledge step by step, and appropriately expand the scope of knowledge such as anatomy, pathology, clinical diagnostics, clinical nursing, etc. In addition, PBL teaching method helps to stimulate students' subjective initiative and develop students' good habits of independent thinking and active learning.

**Strengthen students' comprehensive quality.** Clinical problems are the core content of PBL teaching method. The objective of PBL teaching method is to inspire students' thinking, construct a knowledge system and consolidate foundation. According to the relevant investigation, PBL teaching method is helpful to improve the autonomous learning ability of practice nursing students. The group discussion guided by the tutor is the key link of PBL teaching method, which can train the language expression ability and communication ability of practice nursing students, enhance their self-confidence, and help to improve their information technology application ability from reading a large amount of document literature without understanding to using electronic databases flexibly.

Combined with the research results of this experiment, it can be obtained that students in the observation group were obviously better than those in the control group in the abilities of independent thinking, autonomous learning, problem solving and organizational coordination, and the difference between groups was statistically significant. The language expression ability of students in the observation group was also significantly improved compared with that of students in the control group, but the difference between groups was not statistically significant. From a comprehensive analysis, it can be obtained that the school has carried out nursing rounds and simulation teaching activities for many times so that the language expression ability of all students have been greatly improved.

**Exercise students' communication ability.** The problem-oriented teaching method enables more frequent interaction between teachers and students in the whole teaching process, which helps to shorten the emotional distance between teachers and students and improve teaching efficiency. At the same time, group discussions and class speeches greatly exercise students' abilities of language expression and communication. The following aspects must also be done in order to fully permeate PBL teaching method into the teaching of Surgical Nursing.

① Tutors should have a strong sense of responsibility, as well as relatively strong professional dedication, and delve deeply into textbooks and actively consult documents; ② The teaching method

takes more time compared with the conventional teaching method. The teaching contents should be planned reasonably in order to strengthen the consistency of the teaching progress between the two groups of students and not to disturb the teaching order. In a word, PBL teaching method must be fully implemented, teaching syllabus must be adjusted and course contents must be improved.

### **Summary**

The application of PBL teaching method in the teaching of Surgical Clinical Nursing can achieve a two-way breakthrough in teaching and learning. However, tutors should objectively examine the limitations of PBL teaching method such as great teaching difficulty, heavy burden on practice nursing students, etc. In the future teaching work, PBL curriculum facilities should be further improved and infiltrated into clinical teaching in other departments. According to the research results of this experiment, students in the observation group were obviously better than those in the control group in terms of overall score and feedback on teaching methods, which proves that the teaching method is worthy of vigorous promotion and application.

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