

The Practice Research of “Two-Subject, Two-Stage” Training of Nursing Personnels in Higher Vocational Colleges

Liu Yan¹, Chen Yunmei¹, Chen Yijie¹, Jiang Meilian²

¹Honghe Health Vocational College, Mengzi, Yunnan, 661199, China

²Mengzi People's Hospital, Mengzi, Yunnan, 661199, China

Keywords: Cooperation colleges, Dual subjects, Nursing personnel training

Abstract: [Objective] To explore the effective way of training higher vocational nursing personnels by cooperation between schools and hospitals. [Method] The school and the hospital signed a cooperative school-running agreement, and the students completed their study, noviciate and internship in the school and the hospital respectively and sectionally. Through student evaluation of teaching, students' curriculum performance, the third party assessment of nursing skills, part-time teachers interview, industry evaluation and other methods to evaluate the effect of “two-subject, two-stage” nursing personnels training. [Results] The students' satisfaction about teaching and the third-party assessment results of nursing technology operation of the students in the cooperative education class were significant better than the normal class in school. And the job adaptability, nursing operation ability, professional attitude and interpersonal communication ability of the students in the cooperative education class are obviously superior to the other students during the same period. [Discussion] The “two-subject, two-stage” training mode of higher vocational nursing personnels which is an effective form of vocational nursing personnel training not only makes the course teaching connect with clinical posts and meet the needs of the industry, improves students' nursing practice abilities and comprehensive professional qualities but also promotes the development of both sides of the college and the hospital.

1. Introduction

“Distinct industry characteristics and practical application of personnel training” is the embodiment of distinctive school-running characteristics of medical and health vocational colleges, and is also the biggest characteristic of personnel training in medical and health vocational colleges. But for a long time, the medical vocational colleges are faced with the problems of shortage of practical teaching resources, shortage of double qualified teachers, limited practical teaching conditions, low degree of cooperation with the industry [1], which affect the training of “technical skills” practical applied talents. Since 2015, our school has actively explored the training mode of cooperative nursing talents between schools and hospitals (schools) and constructed a talent training mode of dual-subject education and two-stage learning in schools and hospitals, which has achieved certain results.

2. Objects and Methods

2.1 Objects

Two classes were randomly selected from 6 classes of 2015 grade of three-year nursing major in our school. One class was the experimental group with 46 students and the other class was the control group with 50 students.

2.2 Methods

2.2.1 Control Group

The traditional “2+1” teaching mode is adopted, i.e. all courses are completed in the school in the first 2 years, all courses are taught by full-time teachers in the school, and clinical practice is

completed in the hospital in the next year.

2.2.2 Experimental Group

The training mode of “two subjects and two stages” is adopted, and the specific implementation measures are as follows. (1) Signing a cooperation agreement: A three-level first-class hospital with a long-term cooperation relationship and good teaching conditions was selected as the cooperation hospital, and a cooperation agreement was signed to implement the “two-subject, two-stage” joint talent training of the school and hospital. (2) Selection and training of part-time teachers: Nursing staff with intermediate professional titles or above and more than 5 years of clinical practice teaching experience shall be selected as part-time teachers to undertake the teaching, probation and internship in the hospital for 1.5 years after the students, and the school shall train part-time teachers in teaching theory study and teaching ability improvement. Including making teaching plans, writing lesson plans, making courseware, organizing teaching activities, basic procedures for classroom teaching, after-school guidance, etc. (3) Teaching organization and implementation: in the first 1.5 years, students completed the study of public courses, professional basic courses and some professional courses in the school, and the teaching work was undertaken by full-time teachers in the school. In the latter 1.5 years, he completed some professional courses, nursing post probation and clinical practice in the cooperative hospital, and the teaching work was undertaken by part-time nursing teachers in the hospital. During their study in the hospital, students integrate into the hospital environment, have direct contact with the clinic, combine the learning contents with the job tasks, and cultivate the job abilities such as clinical thinking, on-the-spot communication, emergency treatment, team cooperation and humanistic care. And then realize the seamless connection between study and post [2], integrating “course study, post probation and clinical practice”.

2.3 Observation and Evaluation

2.3.1 Students

Questionnaire survey on teaching satisfaction. A questionnaire survey was carried out on the teaching satisfaction of the six courses the experimental group completed in the hospital. On the basis of literature review and interviews, a questionnaire was designed, including five evaluation items, including teaching objectives, teaching contents, teaching methods, teaching attitudes and teaching effects. Each evaluation item has specific evaluation contents, such as whether the teaching objectives are clear and specific and conform to the professional characteristics; Whether the teaching content meets the post demand, reflects the industry development and discipline trends; Whether the teaching methods are flexible and varied, whether the teaching emphasis is prominent, and whether they can be combined with clinical practice; The teaching attitude includes whether the lesson preparation is sufficient, whether the spirit is full, and whether the students are guided to be earnest and patient. At the end of the semester, the students were surveyed by anonymous questionnaires, and the questionnaires were distributed and recycled on the spot.

The final exam of the course. The experimental group completed six courses in the hospital. At the end of the semester, the final theoretical examination was conducted simultaneously with the classes in the school. The separation of “teaching-examination” was implemented. The academic affairs department of the school organized the examination questions and the examination papers. The final examination questions were linked to the national nurse qualification examination.

Third party assessment of nursing technology operation. Before the practice, the third-party assessment of basic nursing skills was carried out for the two groups of students. The assessment group was composed of clinical nursing experts and clinical nursing teaching instructors selected by Honghe nursing society. Assessment items include cardiopulmonary resuscitation, vital signs measurement, intravenous infusion, sputum suction and oxygen inhalation technology, catheterization, intramuscular injection and other 6 commonly used nursing technologies. Assessment scoring standards shall be formulated by the assessment team according to industry standards and post requirements. Including operating methods (50 points), communication (20

points), humanistic care (20 points), occupational protection (10 points) and other four aspects, to evaluate the overall comprehensive nursing skills of students.

Statistics on qualified rate of nursing examination. After the internship, the students participate in the unified organization of the school's nursing examination guidance. Before graduation, they take part in the national nurse qualification examination, and count the qualified rate of nursing examination of the two groups of students.

2.3.2 Interviews with Teachers

Interviews were conducted with professional course teachers and clinical nursing part-time teachers participating in the cooperation in running the school, and the “double-subject, two-stage” education mode of the school was evaluated.

2.3.3 Industry Evaluation

Interviews were conducted with clinical nursing teachers in practice hospitals to understand the clinical practice of students. Including job adaptability, professional attitude, nursing operation ability, interpersonal communication ability, etc.

2.4 Statistical Method

SPSS17.0 statistical software was used for data analysis. The counting data was expressed by rate, and the measurement data was expressed by mean \pm standard deviation ($\bar{x} \pm s$). The difference between the two groups was statistically significant ($P < 0.05$).

3. Results

3.1 Results Students' Evaluation Results

3.1.1 Teaching Satisfaction

A total of 96 questionnaires on students' teaching satisfaction were distributed, 96 of which were recovered, with a recovery rate of 100%, which were all valid questionnaires. The evaluation results are shown in Table 1.

Table 1 Descriptive Analysis Of Students' Satisfaction with Teaching [n (%)]

Projects	Cooperative classes (n=46)			Control class (n=50)		
	Satisfaction	General	Dissatisfied	Satisfaction	General	Dissatisfied
Teaching objectives	38(82.6)	6(13.0)	2(4.3)	45(90.0)	4(8.0)	1(2.0)
Teaching content	42(91.3)	3(6.5)	1(2.2)	30(60.0)	12(24.0)	8(16.0)
Teaching method	41(89.1)	4(8.7)	1(2.2)	34(68.0)	10(20.0)	6(12.0)
Teaching attitude	40(87.0)	4(8.7)	2(4.3)	41(82.0)	8(16.0)	1(2.0)
Teaching effect	39(84.8)	6(13.0)	1(2.2)	39(78.0)	8(16.0)	3(6.0)

3.1.2 Final Theoretical Examination Results of the Course

There was significant difference in the final scores of pediatric nursing and basic nursing between the experimental group and the control group ($P < 0.05$). The results of basic nursing in the experimental group are higher than those in the control group, and the results of basic nursing in the experimental group are lower than those in the control group, as shown in Table 2.

Table 2 Comparison of Final Exam Results of Each Course (Points, $\bar{x} \pm s$)

Group	Number of cases	basic nursing	Medical nursing	Surgical nursing	Obstetrics and gynecology nursing	Pediatric nursing	Emergency Nursing
experimental group	46	83.13 \pm 5.4	78.48 \pm 4.7	79.52 \pm 6.8	79.80 \pm 4.6	78.76 \pm 5.5	77.93 \pm 7.2
Control group	50	77.24 \pm 5.9	80.34 \pm 6.8	81.34 \pm 6.6	81.54 \pm 5.8	82.10 \pm 6.4	78.04 \pm 8.4
t value		5.068	-1.547	-1.329	-1.620	-2.720	-0.066
P value		0.000	0.125	0.187	0.108	0.008	0.947

3.1.3 Third-Party Assessment of Nursing Technical Operation

The results of the four items in the technical operation examination of the experimental group are all better than those of the control group, and the difference is statistically significant ($P < 0.05$), as shown in Table 3.

Table 3 Comparison of Third-Party Assessment Results of Nursing Technology Operations
(Points, $\bar{x} \pm s$)

Group	Number of cases	Operation method	Communication	Humanistic care	Occupational protection
experimental group	46	47.57±1.1	18.59±0.8	18.48±0.9	8.17±0.9
Control group	50	45.46±2.2	15.10±1.7	15.14±1.7	6.16±1.1
t value		5.890	12.935	12.097	9.688
P value		0.000	0.000	0.000	0.000

3.1.4 Pass Rate of Nursing Examination

A total of 96 students from the two groups participated in the national nurse qualification examination in that year. The qualified rate of experimental group and control group was 95.65% and 96.00%, respectively, with no significant difference ($P > 0.05$).

3.2 Interview Results of Teachers

The clinical part-time teachers participating in the school-hospital cooperative education generally believe that the “double-subject, two-stage” cooperative talents training enables the professional curriculum teaching to effectively connect with clinical posts, effectively helps students to establish professional awareness, cultivate professional emotion, and effectively improve students' nursing practice ability and comprehensive professional quality. Such as communication skills, humanistic care, professional habits, etc., have also promoted the growth and self-improvement of part-time clinical nursing teachers. However, due to lack of teaching experience, part-time teachers need to improve their ability to grasp the key points of theoretical knowledge and analyze teaching difficulties. In the interview, the part-time teachers also put forward suggestions on the cooperative school-running mechanism, the cultivation of part-time teachers' teaching ability and the management of students in the cooperative school-running class.

3.3 Industry Evaluation

Through the investigation and feedback to the management personnel of internship students and clinical teaching teachers in cooperative hospitals, when the experimental group students enter clinical practice, they adapt to their posts quickly, the adaptation period is obviously shortened, and they can become familiar with the routine nursing work procedures and contents quickly. Their work discipline and work attitude are obviously better than those of other internship students, and the employment rate (intended employment) of cooperative hospitals for students of cooperative education group is obviously higher than that of other students.

4. Analysis

4.1 Results Achieved

4.1.1 Curriculum Teaching Docks Professional Posts

“Double-subject” education mode, in which students complete the study of some professional courses in hospitals, through “class-post” study, clinical practice and “classroom in hospital, classroom in ward” teaching mode, teachers teach in hospitals and students go to school in posts, laying the foundation for students to take up their posts upon arrival [3]. Part time teachers can timely add the latest knowledge and skills to the actual teaching process. The knowledge and skills of the students are more suitable for the clinical nursing job, and lay a good foundation for the

employment and post adaptation. At the same time, the teaching mode of “classroom in hospital, classroom in ward” is helpful for students to establish professional consciousness and cultivate professional emotion.

4.1.2 Talent Training Meets the Needs of the Industry

The mode of cooperation between colleges and universities can enable students to come into contact with clinic earlier, which is conducive to cultivating nursing talents with strong practical ability and high professional quality [4]. Hospital, as the main body of education, participates in the process of personnel training and must reflect the needs of industry development and post competence requirements in its own teaching process. From the perspective of the industry, training talents meeting the needs and requirements of the industry with industry standards can not only enhance the cultivation of students' professional skills, but also promote the cultivation of students' professional core abilities such as professional ethics, professional accomplishment, professional discipline, etc., and the talent cultivation can effectively meet the needs of the industry.

4.1.3 Collaborative Development and Win-Win Results for All Parties

School-hospital cooperation in personnel training benefits students, schools and hospitals. Through cooperative teaching, personnel training is more targeted. The teaching content is consistent with the clinical work tasks. In the real teaching environment, students' professional quality is cultivated, their comprehensive professional ability is improved, and students benefit [5]. Cooperative teaching promotes teaching reform and professional construction, which is conducive to curriculum construction, teacher training and benefits schools. Through cooperative teaching, clinical nursing teachers have gained the opportunity of teaching practice. In the process of completing teaching tasks, they have consolidated their professional knowledge and improved their professional ability. At the same time, it has also promoted their own professional development, improved the professional quality of nursing staff and benefited hospitals. The education mode of “two subjects and two segments” has promoted the communication and cooperation, resource sharing and complementary advantages between hospitals and schools, thus enabling students, schools and hospitals to develop and improve.

4.2 Existing Problems and Countermeasures

4.2.1 Lack of Effective Incentive Mechanism

Due to the subordinate management authority of the education main body department and the medical and health administrative department, the medical and health industry enterprises lack the restriction of administrative means and the support and guarantee of policies and systems to participate in medical and health vocational education [6], and the enthusiasm of hospitals to participate in joint education is not high. Clinical nursing staff are not enthusiastic enough because they need to undertake teaching work outside the heavy clinical nursing work, which leads to the educational effect and quality of “double subjects” being affected to some extent. In order to effectively carry out the “double-subject” education mode in schools and colleges, the relationship among “government, school and hospital” should be well handled. So as to give full play to the overall coordination and command role of administrative departments in educating people and to build a community of educating people. For clinical nursing staff involved in teaching, the school employs part-time professional teachers, signs employment contracts and issues employment certificates. The hospital gives certain preferential policies in year-end performance assessment, assessment of first and foremost, promotion of professional titles, etc. to encourage clinical nurses with ability and strong sense of responsibility to take the initiative to undertake teaching tasks.

4.2.2 Lack of Education Mechanism Involving the Whole Industry

As the main body of educating people, hospitals are mainly involved in the teaching of some professional courses and clinical practice. However, their participation in personnel training program formulation, teaching resources construction, teacher training and other aspects is still

relatively low, and they are not fully integrated into the whole process of personnel training. It is necessary to establish a talent training mechanism with cooperation between medical education and colleges, perfect the management system, enable hospitals (industries) to revise the talent training plan, and implement the industry standards and posts to all aspects of talent training. Industry experts are invited to participate in the development and construction of professional courses, especially professional practice courses, to jointly build a professional practice teaching base, and to jointly build a professional course teaching team with “combination of specialty and double qualification”. In order to strengthen the cooperation and communication between full-time teachers in the school and part-time teachers in the hospital, the hospital and the school should be deeply integrated in terms of running conditions, teaching staff, education and teaching reform, etc.

4.2.3 Lack of Continuous and Effective Supervision and Guidance

Both sides of colleges and universities have not established a continuous and effective education management and supervision and guidance mechanism, and lack continuous and effective management and supervision on the implementation of the cooperative talent training program, teaching organization and operation, classroom teaching management, teaching evaluation, part-time teacher management, etc. The lack of scientific and reasonable supervision and guidance on part-time teachers' teaching guidance and training, improvement of teaching ability and monitoring of teaching quality has affected the teaching effect and the quality of personnel training. Both sides of colleges and universities should jointly set up a teaching supervision department, with a dedicated person in charge of teaching supervision, strengthen daily teaching management and teaching performance evaluation for clinical nursing staff who undertake teaching work, organize regular training to improve teaching ability and carry out teaching competition activities, so as to effectively solve the problems of weak teaching theory and insufficient teaching skills of clinical part-time teachers.

5. Conclusion

The cooperation between colleges and universities is an effective way for higher vocational colleges to actively adapt to the demand of employment, shorten the actual gap between school education and post, and realize the cooperation of medical education and co education of talents. The “two main body, two-stage” training mode of higher vocational nursing talents makes hospitals become the main body of talent training. It closely combines education and occupation, gives full play to the respective advantages of schools and hospitals, and realizes resource sharing and complementation. In order to take the road of sustainable development, the educational mode of university-college cooperation must strengthen connotation construction, establish and perfect cooperation mechanism and system, perfect rules and regulations, promote the institutionalization of university-college cooperation, increase the depth and breadth of cooperation, strengthen the management of university-college cooperation in running schools, so that university-college cooperation can truly realize the co-construction and sharing of teaching resources at a higher level and benefit from various aspects.

Acknowledgment

Science Research Fund Project of Yunnan Education Department (Project No.: 2019J1013)

References

- [1] Zhou Jianjun. Reform and practice of “double subject” talent training mode in Colleges and universities [J]. China higher education, 2015,6:96-98.
- [2] Zhu Yunhua, Peng Sheng. Research on the reform and innovation of application-oriented nursing undergraduate training mode based on “medical and educational cooperation, two syndromes simultaneously” [J]. Modern medicine and health, 2017, 33 (22): 3503-3505.

- [3] Yu Huiqin. An overview of the talent training mode of higher vocational nursing education in China [J]. Chinese nursing education, 2015,12 (7): 496-499.
- [4] Li Huan, Wang Yinyan, Sun Tao, Luo Xiaochuang. Application effect of cooperative nursing personnel training mode based on “post competency” in Colleges and universities [J]. Chinese contemporary medicine, 2019, 26 (24): 157-160.
- [5] Ma Ruya, Dong Meirong, Li Huiling, Jiang yinfen, Cheng Zhen. Practice of cooperative personnel training in higher vocational nursing colleges [J] Chinese Journal of nursing, 2011,46 (2): 150-152.