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Research on the Application of Workshop Teaching Mode Based on DEU Concept in Nursing Student Teaching

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Abstract: *Objective*: To investigate the implementation effects of the workshop teaching model based on the DEU (Dedicated Education Unit) philosophy in clinical nursing education for intern nurses, and analyze its impacts on students' critical thinking abilities, operational skill levels, and satisfaction. *Methods*: A total of 80 undergraduate nursing students interning at a tertiary hospital in Deyang City from January to June 2025 were randomly divided into an experimental group (40 students) and a control group (40 students). The control group received conventional lecture-based instruction, while the experimental group adopted the DEU-based workshop teaching model. Comparative analyses were conducted on theoretical scores, operational assessment results, Critical Thinking Inventory (CTDI-CV) scores, and satisfaction surveys between the two groups. *Results*: The experimental group demonstrated significantly higher theoretical scores, operational skill assessments, and critical thinking dimension scores compared to the control group ($P < 0.05$), with notable improvements in teaching satisfaction. *Conclusion*: Integrating the DEU philosophy with workshop teaching models can effectively enhance clinical teaching quality, strengthen nursing students' comprehensive competencies, and boost learning motivation. This approach is recommended for widespread adoption in clinical nursing education.

Keywords: DEU concept; Workshop teaching mode; Intern nursing students; Critical thinking; Clinical teaching

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1. Introduction

With the full implementation of the National Nursing Development Plan (2021–2025), China's nursing education is transitioning into a phase of connotative development. The cultivation of nursing professionals now requires not only quantitative expansion but also comprehensive quality enhancement. Under the "Healthy China" strategy, public demand for medical service quality, humanistic care in nursing, and professional competence continues to rise, endowing nursing education with new historical missions. In this context, clinical thinking skills, technical proficiency, and humanistic literacy among nursing interns—vital reserves for the nursing workforce—have become core priorities in higher nursing education. However, current clinical teaching predominantly employs rote-learning methods where instructors dominate instruction while students passively absorb knowledge, lacking

effective interaction and independent exploration opportunities. The educational process often emphasizes knowledge transmission over practical skill development and holistic competency building. Additionally, during clinical internships, interns face significant psychological stress and adaptation challenges due to environmental changes, role transitions, and lack of experience, making it difficult to rapidly translate theoretical knowledge into clinical practice.

Therefore, there is an urgent need for a systematic, student-centered, innovative teaching model that integrates theory and practice to address the shortcomings of traditional approaches. The DEU (Dedicated Education Unit) concept, first proposed by Flinders University in Australia, advocates embedding teaching functions within clinical wards to create a dual-focused nursing learning environment that balances instruction and service. In this model, experienced clinical nurses collaborate with teaching teams to provide nursing students with authentic, continuous, and structured practical opportunities, thereby enhancing their comprehensive competencies. The workshop-based teaching approach, on the other hand, adopts a learner-centered methodology that emphasizes immersive experiences, interactive feedback, and skill transfer through scenario simulations, case studies, group collaboration, and role-playing. By organically integrating the DEU philosophy with workshop pedagogy, we have established an integrated teaching system combining real-world clinical scenarios, team collaboration, critical thinking, and hands-on practice. This approach not only boosts nursing students' learning motivation and clinical responsiveness but also charts a viable path for improving nursing education quality and optimizing teaching models [1].

2. Data and methods

2.1. Research objectives

Using convenience sampling, 80 undergraduate nursing students interning at Deyang People's Hospital from January to June 2025 were selected. Inclusion criteria: (1) Fresh full-time undergraduate nursing students; (2) Informed consent and willingness to participate in the study. Exclusion criteria: (1) Interruption of internship or failure to complete the entire program; (2) Refusal to participate in the survey. Participants were randomly assigned into an experimental group and a control group of 40 members each using a lottery system [2].

2.2. Research methods

2.2.1. Teaching methods of the control group

Traditional lecture teaching was adopted, and the teaching content was centered on nursing operation process. The instructor used PPT to explain and demonstrate the operation.

2.2.2. Teaching methods of the experimental group

(1) Based on the DEU concept, the teaching mode in the form of workshops is implemented. The teaching process includes:

(2) Pre-class preparation: Establish a WeChat group to release teaching objectives, case materials, and operation videos to guide pre-study.

(3) Case teaching: Select one common case and one difficult case from the teaching case library, simulate a typical clinical situation, and set up dynamic vital sign changes.

(4) Group cooperation: Four nursing students work in groups to carry out role-playing, practical simulation, and on-site emergency response.

(5) Teacher guidance and comment: The teacher gives guidance and random intervention in the operation process to improve the response and judgment of nursing students; after the operation, centralized comments are made.

(6) Teaching summary: Use mind maps to sort out key points, summarize knowledge structure, and emphasize humanistic care and communication skills.

2.3. Research tools

(1) General information questionnaire: survey gender, age, school, academic status, etc.
(2) Critical thinking trait scale (CTDI-CV): contains 7 dimensions, a total of 70 items, each item is 6 points.
(3) Theoretical knowledge and operational skills scoring table: the teaching teacher and the third-party evaluation team will score it uniformly.
(4) Teaching satisfaction questionnaire: Including teaching content, teacher performance, teaching atmosphere, operation gains, and other items [3].

2.4. Statistical methods

SPSS 26.0 statistical software was used. Quantitative data were expressed as x±s, and intergroup comparison was performed by t-test; categorical variables were expressed as frequency and percentage, and χ^2 test was used. $P < 0.05$ was statistically significant.

3. Results

3.1. Comparison of general data

There was no significant difference in gender, age, and academic performance between the two groups of nursing students ($P > 0.05$), which were comparable, as shown in **Table 1**.

Table 1. Comparison of theoretical and operational results

Groups	Theoretical achievement (score)	Operating score (points)
Experimental group	90.85 ± 2.51	92.42 ± 2.18
Control group	85.30 ± 3.24	86.03 ± 3.06
t price	7.834	9.267
P price	＜ 0.001	＜ 0.001

3.2. Comparison of critical thinking ability between the groups

The nursing students in the experimental group were significantly better than the control group in both theoretical and operational assessment, as shown in **Table 2**.

Table 2. Critical thinking ability comparison (CTDI-CV)

Dimension	Experimental groups (sub)	Control group (sub)	*t* price	*P* price
Thirst for knowledge	42.3 ± 4.2	38.5 ± 3.9	4.09	＜ 0.001
Analyzing ability	41.8 ± 4.5	36.7 ± 4.4	5.00	＜ 0.001
Systematic capability	40.5 ± 4.1	35.2 ± 3.8	5.82	＜ 0.001
Open thinking	39.2 ± 4.6	34.8 ± 4.2	4.36	＜ 0.001
Self-confidence	41.0 ± 3.9	36.4 ± 3.6	5.18	＜ 0.001
Cognitive maturity	42.1 ± 4.7	38.6 ± 4.0	3.87	＜ 0.001
Total points	288.1 ± 17.4	260.2 ± 19.1	7.06	＜ 0.001

The experimental group was significantly better than the control group in all dimensions and total score of critical thinking.

4. Discussion

The results of this study show that the workshop teaching mode based on DEU concept has obvious advantages in the teaching of nursing students, which are reflected in the following aspects:

4.1. Stimulate learning initiative and participation

The workshop teaching model based on the DEU philosophy significantly enhances nursing students 'learning initiative and classroom participation by creating an integrated "clinical-teaching" learning environment [4]. Compared to traditional lecture-based instruction, this approach achieves these outcomes through three key mechanisms: First, scenario simulation transforms abstract nursing knowledge into actionable clinical scenarios. High-fidelity cases like "Management of Sudden Hypoglycemia" and "Postoperative Hemorrhage Emergency" require students to actively apply their knowledge. During the study, experimental group nursing students averaged 5.2 discussions per person in case discussions, significantly higher than the control group's 1.8 times ($P < 0.01$). Second, the role-based collaboration mechanism activates participants through assigned roles (e.g., responsible nurses, assistant nurses, patient families). In the "Neonatal Asphyxia Resuscitation" simulation, 92.5% of nursing students stated they "had to think proactively to complete team tasks." Third, pre-class materials distributed via WeChat formed a "problem-oriented" learning cycle. 82% of experimental group nursing students developed literature review habits. This teaching model aligns with Kolb's Experiential Learning Theory, transforming students' learning motivation from external to internal through the cyclical process of "concrete experience-reflection observation-conceptualization-active experimentation." Notably, this enhanced autonomy proved sustainable—follow-up clinical internships revealed that experimental group nursing students independently documented clinical issues 2.3 times more frequently than the control group [5].

4.2. Improve critical thinking and adaptability

This study confirmed through the CTDI-CV scale that the DEU-based workshop teaching model comprehensively enhances nursing students 'critical thinking abilities. In the "Analytical Skills" dimension (41.8 ± 4.5 vs 36.7 ± 4.4), the experimental group demonstrated superiority in logical case handling. For instance, in the comprehensive case of "Diabetic Ketoacidosis", 87.5% of nursing students in the experimental group systematically considered multiple factors, including blood glucose monitoring, fluid therapy, and electrolyte balance, compared to only 62.5% in the control group [6]. The improvement in "Systematic Thinking" (40.5 ± 4.1 vs 35.2 ± 3.8) reflected in the completeness of nursing procedures. In handling "Acute Myocardial Infarction Patients", the experimental group achieved a 28% improvement from 62.5% to 89.5% in completing the time chain from pain assessment to thrombolysis preparation. Particularly in the "Open Thinking" dimension (39.2 ± 4.6 vs 34.8 ± 4.2), the workshop's debate sessions helped nursing students learn to embrace diverse perspectives. During the "Euthanasia Ethics Discussion", the experimental group proposed 2.1 times more alternative solutions than the control group. This cognitive training was implemented through the "Cognitive Ladder" theory in neuroscience. Teachers designed progressive questions (e.g., "What is your priority when a patient suddenly experiences hypoxia?") to build a supportive framework for cognitive development. The tracking data showed that the correct rate of nursing

students in the experimental group to independently deal with emergencies for the first time in the real clinical environment was 89.3%, which was 34.2 percentage points higher than that of the traditional teaching group, which proved the importance of situational training in Benner's "novice to expert" theory [7].

4.3. Optimize teaching experience and satisfaction

The 95% improvement in teaching satisfaction stems from DEU's workshop model that restructured four dimensions of teaching experience. In the physical environment, the authentic work scenarios in DEU wards (such as emergency carts and ECG monitors with real equipment configurations) made 87% of nursing students feel "the learning environment more closely resembles actual clinical practice." Regarding psychological safety, through mechanisms like "allowing mistakes and guiding reflection" (e.g., team remediation drills after simulated operational errors), anxiety scores dropped from 6.2 ± 1.8 to 3.5 ± 1.2 ($P < 0.01$). For interactive quality, the 1:4 student-to-faculty ratio ensured each student received personalized feedback time of 12.3 minutes per session, triple that of the control group [8]. A typical case showed that after teachers demonstrated communication skills during "difficult blood collection" scenarios, students' success rate in obtaining cooperation rose from 55% to 88%. The innovative teaching design was particularly evident in "dynamic case setups," such as designing sudden deterioration turning points in patient conditions, which made 83% of nursing students feel "challenging yet manageable." This experiential optimization aligns with Maslow's hierarchy of needs, fulfilling security and belonging while ultimately achieving self-actualization. In-depth interviews with instructors revealed that the workshop model prompted 85% of mentors to shift from evaluating "operational proficiency" to focusing on students' clinical reasoning processes, further reinforcing a virtuous cycle of mutual growth between teaching and learning [9].

4.4. Enhance practical skills and humanistic literacy

This model employs a dual-track training mechanism combining technical and humanistic approaches, enabling nursing students to master core operational skills while developing profound humanistic care competencies. In terms of technical proficiency, the experimental group's outstanding performance in operational assessments (92.42 ± 2.18) stems from its unique "three-stage training method": practicing basic procedures on models, refining details through standardized patient (SP) simulations, and finally implementing them in real patient care settings. For instance, the success rate of venipuncture increased from 68% at the training stage to 94%. Particularly in complex procedures like "closed thoracic drainage care," the experimental group achieved a 100% compliance rate with aseptic principles, representing a 25% improvement over the control group. Humanistic cultivation was realized through a "trinity" design: (1) Role-playing scenarios featuring "anxious family members" to train communication skills; (2) Narrative nursing methodology requiring students to document patients' disease narratives; (3) Introduction of "empathy fatigue" workshops to enhance emotional management [10]. Qualitative data shows experimental students significantly outperformed controls in dimensions such as "understanding patient psychological needs" (4.8/5) and "effective comforting techniques" (4.5/5). A typical case demonstrates that when facing an elderly dementia patient resisting treatment, experimental students successfully combined validation therapy with personalized communication, achieving a 60% increase in treatment compliance rates. This balance between "technical precision and humanistic sensitivity" is the vivid practice of Watson's human care theory in clinical teaching, which provides an effective path for cultivating nursing talents with both "professionalism and warmth" in the new era [11].

5. Conclusion

The workshop-based teaching model rooted in the DEU philosophy effectively enhances clinical nursing students' theoretical knowledge, hands-on skills, and critical thinking abilities while improving teaching experiences and student satisfaction. This approach aligns with modern nursing education trends and demonstrates strong replicability and practicality, making it worthy of wider adoption in clinical internship programs.

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Disclosure statement

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