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Letter to the Editor

Integrated application of Kolb's experiential learning theory and Jeffries simulation theory in the training of newly recruited nurses

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To the Editor,

The nursing discipline has expanded significantly in recent years, driven by advancements in healthcare. Studies show that newly employed nurses in China struggle particularly with critical thinking, impacting their ability to make sound clinical judgments.[1] Innovative training methods, such as the dual mentor training model and simulation-based approaches, have been introduced to address these challenges.[2] To design simulations more effectively, a theoretical framework is necessary. Jeffries' simulation theory is one of the most commonly used theories in many studies.[3]

The study included newly hired nurses at Huazhong University of Science and Technology Union Shenzhen Hospital as research subjects. Inclusion criteria comprised newly hired nurses at the hospital with nursing licenses, who provided informed consent. Exclusion criteria encompassed individuals with prior clinical simulation or hospital work experience, those unable to complete training due to various reasons, and those unwilling to participate. Finally 52 students completed the training with 26 in experimental group and 26 in control group. The study assessed the clinical judgment, theoretical knowledge, and operational skills of both groups of new nurses before and after two months of training.

In the theoretical knowledge test, both groups scored similarly in the pre-test, with no significant difference between them ($P > 0.05$). After the training, both groups showed significant improvement in theoretical knowledge ($P < 0.001$), but inter-group comparison indicated that there was no significant difference in scores between the groups, either in the pre-test or post-test (T 1 A). In the practical skills test, the average scores of both groups were similar before training, with no significant difference between them ($P > 0.05$). After the training, the practical skills scores of both groups increased significantly, with significant differences observed in both groups ($P < 0.001$). Inter-group comparison showed that the practical skills scores of the experimental group were significantly higher than those of the control group after training ($P < 0.001$) (Fig. 1B). The improvement in practical skills of experimental group is significantly higher than control group ($t = 2.51$, $P = 0.007$), demonstrating the potential of simulation teaching in enhancing the practical abilities of newly recruited nurses. The evaluation of clinical judgment skills showed improvements in both groups after training in terms of effective noticing, effective interpreting, effective responding, effective reflecting, and total scores (Fig. 1C). Specifically, the improvement of experimental group is significantly higher than the control group in total score ($t = 2.37$, $P = 0.01$), effective response ($t = 2.37$, $P = 0.01$) and effective reflection ($t = 1.87$, $P = 0.03$), while the differences in other aspects did not reach statistical significance ($P > 0.05$) (Fig. 1D).

In summary, the results of this study highlight the importance of integrating Kolb's Experiential Learning Theory and Jeffries' Simulation Theory in nursing education. This integrated teaching model not only significantly improves the theoretical knowledge and practical skills of newly recruited nurses but also enhance certain clinical judgment abilities. Despite some limitations, this study provides valuable insights and a foundation for future improvements and research directions in nursing education.

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None.

Author contributions

Linan Zhang and Yaojie Xie designed the study and performed the experiments, Linan Zhang and Kin Cheung collected the data, Yaojie Xie and Kin Cheung analyzed the data, Linan Zhang and Yaojie Xie prepared the manuscript. All authors read and approved the final manuscript.

Data availability statement

All data generated or analysed during this study are available from the corresponding author.

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1A. --- Comparison of the results of the theoretical knowledge test between the two groups

Group	Pre-test	Post-test	Improvement	t	P
Control group (n=26)	74.12±9.23	82.23±11.15	8.12±8.15	5.07	<0.001
Experimental group (n=26)	75.69±6.86	84.08±6.39	8.38±5.18	8.25	<0.001
t	0.69		0.14		
P	0.24		0.44		

1B. --- Comparison of the results of the operation skill test between the two groups

Group	Pre-test	Post-test	Improvement	t	P
Control group (n=26)	50.18±1.15	76.99±7.05	26.81±7.31	18.69	<0.001
Experimental group (n=26)	49.73±1.48	81.96±7.77	32.23±8.24	19.93	<0.001
t	1.21		2.51		
P	0.11		0.007		

1C. --- Comparison of clinical judgment test results between the two groups

		Pre-test	Post-test	t	p
Control group(n=23)	Effective awareness	3.77±1.44	6.96±1.48	11.12	<0.001
	Effective interpretation	2.12±0.90	4.54±0.86	10.17	<0.001
	Effective response	5.04±2.56	8.92±1.49	6.71	<0.001
	Effective reflection	2.38±0.70	4.50±0.71	9.74	<0.001
	Total	13.31±4.23	24.92±3.99	11.42	<0.001
Experimental group (n=23)	Effective awareness	3.67±1.36	7.35±1.35	11.19	<0.001
	Effective interpretation	2.19±0.48	4.85±0.88	10.39	<0.001
	Effective response	4.58±1.49	10.08±1.57	15.49	<0.001
	Effective reflection	1.90±0.63	4.62±0.94	11.67	<0.001
	Total	12.35±3.77	26.88±3.85	15.14	<0.001

1D --- Comparison of clinical judgment test results improvement between the two groups

Group	Effective awareness	Effective interpretation	Effective response	Effective reflection	Total
Control group (n=26)	3.19±1.46	2.42±1.21	3.88±2.95	2.12±1.11	11.62±5.19
Experimental group (n=26)	3.67±1.67	2.65±1.30	5.50±1.81	2.71±1.18	14.54±4.89
t	1.10	0.66	2.37	1.87	2.09
P	0.13	0.25	0.01	0.03	0.02

Fig. 1. (A) Comparison of the results of the theoretical knowledge test between the two groups
(B) Comparison of the results of the operation skill test between the two groups
(C) Comparison of clinical judgment test results between the two groups
(D) Comparison of clinical judgment test results improvement between the two groups.

Conflicts of interest

The authors declare no conflict of interest.

Declaration of competing interest

None.

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