

# Simulation in an undergraduate nursing programme: How do Students rate their learning?

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# Research Context

- Within the Bachelor of Nursing Programme at Wintec in New Zealand





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1

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# Research Context



- Within a simulated clinical practice programme for second semester nurses

Day 1	Day 2	Day 3	Day 4
Patient admission -The unconscious / bedridden patient -All admission documentation... -Basic nursing care Debrief	A day in the ward -Patient Manual Handling/ -Medications Debrief	A day in the ward -Collaborative care -Referrals. Collaborative Meeting	Patient Discharge -Discharge decision and process -Documentation audit. -Summary/presentation
Workshop 1	Workshop 2	Workshop 3	Workshop 4
-Admission process -Professional documentation -Introduction to Medication Management	-Time Management -Mobility Aids/documentation -Medication Management cont'd	-Collaborative care...referral system -Fluid balance	-Discharge Process -Evaluation

# Study Aim

- The aim of this research was to quantify students' identified learning from the newly introduced simulation programme.

# Method / Methodology

- A prospective before and after design
- Thematic analysis of data
- Theoretical Framework; Kolb's experiential learning theory



# Population / Method

- 78 self selecting year one nursing students rated their pre and post responses to 8 questions (using a scale of 0-10, 10 being the highest score).
- Students were asked to rate their knowledge, ability and confidence before and after the commencement of the simulation programme using the same scales.



# Data Analysis

- Student scores were recorded and analysed in three ways:
- Descriptive statistics (all responses)
- A paired t-test
- An unpaired t-test



# Table 1a- Descriptive Statistics: scores for questions 1-8 before and after the simulation

Question	Pre/Post	Number	Mean	Median	SE Mean
Q1. You were allocated a simulated patient and told why the patient was admitted to your ward. How much knowledge do you currently have about your patient's diagnosis / reason for admission?	Pre	78	3.53	3.0	0.25
	Post	61	7.03	7.0	0.20
Q2. How do you rate your understanding of the experience of being a patient and receiving nursing care?	Pre	78	5.14	5.0	0.29
	Post	61	7.65	8.0	0.18
Q3. How confident do you feel in your ability as a student nurse to form and maintain a therapeutic relationship with your patient?	Pre	78	5.17	5.0	0.25
	Post	61	7.57	8.0	0.17
Q4. During the programme you will be expected to provide some basic nursing care such as bed bathing and changing an occupied bed. How competent do you feel in providing this care for your patient?	Pre	78	5.59	5.0	0.26
	Post	61	7.44	7.0	0.20
Q5. In debriefing you are required to reflect on the decisions you made while caring for your patient. How confident do you feel in your ability to do this?	Pre	78	4.73	5.0	0.26
	Post	61	6.95	7.0	0.20
Q6. How would you rate your understanding of the roles of the members of the multidisciplinary team?	Pre	78	4.59	5.0	0.26
	Post	61	7.44	8.0	0.20
Q7. How confident do you feel making clinical decisions for your patient's care?	Pre	78	4.30	5.0	0.21
	Post	61	6.83	7.0	0.20
Q8. How confident do you feel completing professional documentation eg care plans, medication charts and clinical notes?	Pre	78	3.70	3.5	0.22
	Post	61	6.73	7.0	0.21

# Table 1b-Knowledge/skill differences/confidence before and after simulation - paired t-test

Question	Mean Pre	Mean Post	SE Mean- Pre	SE Mean- Post	Difference Estimate	Confidence Interval	P- Value
Q1.	3.54	7.03	0.26	0.21	-3.49	(-4.15, -2.84)	0.00
Q2.	5.14	7.66	0.29	0.19	-2.51	(-3.19, -1.83)	0.00
Q3.	5.18	7.57	0.26	0.18	-2.39	(-3.01, -1.77)	0.00
Q4.	5.59	7.44	0.27	0.21	-1.85	(-2.51, -1.18)	0.00
Q5.	4.73	6.95	0.26	0.20	-2.22	(-2.87, -1.56)	0.00
Q6.	4.59	7.44	0.26	0.21	-2.85	(-3.51, -2.19)	0.00
Q7.	4.31	6.84	0.21	0.21	-2.52	(-3.11, -1.94)	0.00
Q8.	3.71	6.74	0.23	0.22	-3.03	(-3.65, -2.41)	0.00

# Table 1c-Unpaired t-Test (Pre=78, Post =61)

Question	Mean Pre	Mean Post	Difference	SE Mean	Confidence Interval	P- Value
Q1.	3.50	7.03	-3.52	0.35	(-4.23, -2.81)	0.00
Q2.	5.04	7.65	-2.60	0.34	(-3.30, -1.91)	0.00
Q3.	5.19	7.57	-2.37	0.33	(-3.04, -1.70)	0.00
Q4.	5.41	7.44	-2.03	0.32	(-2.68, -1.38)	0.00
Q5.	4.62	6.95	-2.32	0.34	(-3.02, -1.63)	0.00
Q6.	4.34	7.44	-3.09	0.35	(-3.81, -2.38)	0.00
Q7.	4.23	6.83	-2.60	0.34	(-3.28, -1.92)	0.00
Q8.	3.59	6.73	-3.14	0.35	(-3.84, -2.44)	0.00

# Results

- Overall, the analyses show a statistically significant difference between students' pre and post scores for each of the eight questions.



# Confidence

- Significantly improved in:
- Making clinical decisions
- Completing professional documents
- Maintaining therapeutic relationships with patients



# Understanding

- Students understanding significantly improved in areas directly relevant to patient care such as:
  - Reason for admission and diagnosis
  - Patient experience
  - Competencies in providing patient care



# Greatest difference estimate

- Greatest difference estimate in the paired t-test was seen in question 1.....however this result also showed a low pre-test score
- Question 8 also showed a low pre score.



# Highest pre-score

- In question four, where students rated their confidence in providing basic care, the highest pre score was noted. Incidentally, this result showed the lowest difference estimate in pre and post scores

# Highest post-test score

- In this study students self-perceived understanding of the patient experience, despite the high rated level of prior understanding, yielded the highest post-test score in overall results



# Conclusion

- Overall this study showed that students' learning from their participation in the simulated practice programme increased knowledge, competence and clinical confidence. Students gained a deeper understanding of the patient experience.



# Questions???

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