

Table 1: Comparison of Student Performance on PRS Questions By Performance on Same/Similar Questions in Examinations. (N=71)

Content of Question used in PRS and Quiz or exam tested on	% class with Correct PRS/ Correct answer on exam	% class no answer on PRS / Correct answer on exam	% class with Incorrect PRS / Correct answer on exam	% class with Correct PRS / incorrect answer on exam	% class no answer on PRS / incorrect answer on exam	% class Incorrect PRS / had incorrect answer on exam	X2 p value
Purpose of a general survey (quiz 1)	68%	1.5%	1.5%	23%	1.5%	5.5%	.028
Best indicator general health status in child (quiz 1)	77%	7%	10%	1.5%	3%	1.5%	.010*†
Nursing Diagnosis- Ineffective airway clearance (quiz 2)	69%	10%	5.5%	12.5%	3%	0%	.593
Nursing Diagnosis- Ineffective Breathing Pattern (quiz 2)	76%	8%	3%	10%	3%	0%	.480
Nursing Diagnosis- Decreased Cardiac Output (quiz 2)	65%	3%	7%	12.5%	0%	12.5%	.001*† ‡
Nursing Diagnosis- Activity Intolerance (quiz 2)	48%	13%	18%	10%	5.5%	5.5%	.552
Nursing Diagnosis- Decreased Cardiac Output (Midterm)	63%	3%	13%	14%	0%	7%	.271
Nursing Diagnosis- Immobility (midterm)	70%	14%	6%	10%	0%	0%	.385
Nursing Diagnosis- Immobility (quiz2)	79%	8%	5.5%	2%	5.5%	0%	.000* † ‡
Nursing Diagnosis- Activity Intolerance (midterm)	48%	16%	21%	10%	2.5%	2.5%	.879
Nursing Diagnosis- Alteration in Comfort (midterm)	18%	11%	51%	0%	6%	14%	.095

• significant $p \leq .05$; † significant with Simes test; ‡ significant with Bonferroni correction.

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Table 2: Comparison of Class Average Scores on Respiratory and Cardiac NCLEX Questions and Class Average Scores on Quiz 2 and Midterm Examination.

Class Average Score on Respiratory NCLEX questions N=71	Class Average Score on Quiz 2 which included Respiratory content N=71	Class Average Score on Cardiac NCLEX questions N=71	Class Average Score on Midterm which included Respiratory content and Cardiac content N=71
89%	79%	92%	87%

Table 3: Students Responses to PRS questions Day 1 of Class

PRS Question	Yes	NO	Not Sure
I have access to a computer with internet access in order to accomplish class assignments?	100% N=45	0% N=50	N/A
Do you feel the use of the website case studies and NCLEX questions will enhance your ability to meet the course objectives?	85% N=50	0% N=50	15% N=50
Do you think the addition of the PRS in lectures will enhance your ability to learn the material presented in lectures?	56% N=50	6% N=50	38% N=50

Table 4: Results of Regression analysis on Performance on Final Course Grade

Performance on Final course grade	Coefficient	Std. Error	95% Confidence Interval lower-upper	t	p
Constant	83.6	7.0	69.61---97.55	11.944	.000
# PRS Correct	.4	.4	-.322---1.055	1.063	.292
# PRS Incorrect	-.2	.6	-1.366---.891	-.420	.676
NCLEX 90 or above	1.5	2.2	-2.847---5.869	.692	.491
NCLEX 80-89	.99	2.2	-3.447---5.417	.444	.659

R²=.040,(df-4,66)F=.689, p=.602

Table 5: Results of Regression analysis on Performance on Final Exam

Performance on Final Exam	Coefficient	Std. Error	95% Confidence Interval lower-upper	t	p
Constant	81.6	6.9	67.90---95.27	11.901	.000
# PRS Correct	.3	.3	-.348---1.001	.966	.337
# PRS Incorrect	-.4	.6	-1.530---.682	-.765	.447
NCLEX 90 or above	1.9	2.1	-2.373---6.167	.887	.378
NCLEX 80-89	2.1	2.2	-2.215---6.469	.978	.332

R²=.056, (df-4,66)F=.987, p=.421

Table 6: Results of Regression analysis on performance on Midterm

Class Performance on Midterm	Coefficient	Std. Error	95% Confidence Interval lower-upper	t	p
Constant	75.0	11.7	51.7---98.40	6.411	.000
# PRS Correct	.2	.6	-.912---1.392	.416	.679
# PRS Incorrect	-.4	.95	-2.297---1.479	-.433	.667
NCLEX 90 or above	5.2	3.7	-2.064---12.52	1.431	.157
NCLEX 80-89	2.9	3.7	-4.496---10.33	.786	.435

R²=.062,(df-4,66)F=1.095, p=.366

Table 7: Results of Regression Analysis on performance on Quiz 2

Class Performance on Quiz 2	Coefficient	Std. Error	95% Confidence Interval lower-upper	t	p
Constant	79.98	15.8	44.01---95.65	5.049	.000
# PRS Correct	.03	.8	-.111---2.43	.042	.966
# PRS Incorrect	-.7	1.3	-1.75---2.42	-.554	.582
NCLEX 90 or above	1.02	4.9	-4.69---11.43	.205	.838
NCLEX 80-89	-.05	5.0	-5.996---10.39	-.009	.993

R²=.011,(df-4,66)F=.180, p=.948

Appendix 1

PRS and Publisher Web Site Midterm Evaluation and Results N=70

1. I feel that the use of the Personal Response System in lecture has enhanced my ability to understand the information presented to me.

Strongly Agree=5	Agree=4	Neutral= 3	Disagree=2	Strongly Disagree=1
16%	51%	20%	6%	7%

2. I feel that the use of the Publisher Web site (Case Study) has assisted me to utilize critical thinking and therefore enhanced my learning of the content.

Strongly Agree=5	Agree=4	Neutral= 3	Disagree=2	Strongly Disagree=1
11%	41%	23%	16%	9%

3. I feel that the use of the Publisher Web site (NCLEX) has assisted me to utilize critical thinking and therefore enhanced my learning of the content.

Strongly Agree=5	Agree=4	Neutral= 3	Disagree=2	Strongly Disagree=1
31%	49%	7%	0%	13%

4. I feel that the above technology enhanced activities have assisted me to perform better on the required quizzes and midterm for this course.

Strongly Agree=5	Agree=4	Neutral= 3	Disagree=2	Strongly Disagree=1
17%	47%	17%	14%	4%

Mark the number that indicates how well you feel the use of the Personal Response System (PRS) prepared you to achieve the following course objectives.

5 = excellent, 4 = very good, 3 = good, 2 = fair, 1 = poor

5. Demonstrate the ability to collect health-related data systematically through history taking and selected psychomotor skills

5 = excellent	4= very good	3 = good	2=fair	1=poor
7%	20%	49%	14%	10%

6. Formulate health assessments and nursing diagnoses based on data collected

5 = excellent	4= very good	3 = good	2=fair	1=poor
14%	40%	33%	6%	7%

Mark the number that indicates how well you feel the use of the Publishers web site (case study) prepared you to achieve the following course objectives.

7. Demonstrate the ability to collect health-related data systematically through history taking and

selected psychomotor skills

5 = excellent 10%	4= very good 34%	3 = good 33%	2=fair 14%	1=poor 7%
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8. Formulate health assessments and nursing diagnoses based on data collected

5 = excellent 13%	4= very good 33%	3 = good 39%	2=fair 7%	1=poor 7%
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Mark the number that indicates how well you feel the use of the Publishers web site (NCLEX questions) prepared you to achieve the following course objectives.

9. Demonstrate the ability to collect health-related data systematically through history taking and selected psychomotor skills

5 = excellent 7%	4= very good 39%	3 = good 36%	2=fair 13%	1=poor 4%
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10. Formulate health assessments and nursing diagnoses based on data collected

5 = excellent 9%	4= very good 39%	3 = good 34%	2=fair 11%	1=poor 6%
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Biographical Data:

11. Number of years experience with technology (computer, internet, email)

Less than 1 year =3% 1 to 5 years = 23% 6 or more years =73%

12. Are you an undergraduate student for the first time?

First degree student= 81%

Second degree student = 17%

13. Sex: Male 11%. Female =87%

14 Age: 18-22 =56%. 23-27= 21%. 28-32= 6%. 33 or older = 10%

15. Are you are student with English as a Second Language? Yes = 17% No = 74%

SOURCE: Abdallah, L. (February, 2008). Reflective Teaching with Technology: Use of a Personal Response System and Publisher's web site to Enhance Students' Performance in a Nursing Assessment and Skills Course. Online Journal of Nursing Informatics (OJNI), 12 (1) [Online]. http://ojni.org/12_1/abdallah.html