

Case Study

Practice Exams Help Prepare for NCLEX Success

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SUMMARY OF FINDINGS

- Students used PassPoint (as part of a trial) to prepare for the NCLEX.
- More students used the practice quizzing feature than the practice exams.
- Overall quizzing Mastery Level (ML) for those students who took and passed the NCLEX was 2.54, and overall exam ML was 6.78 (for those who took practice exams).
- Usage of PassPoint led to demonstrated ability to correctly answer more difficult questions; and so with ongoing usage mastery of the content improves.

University of Texas at Arlington Nursing Program

The program at the University of Texas at Arlington admits 240 students twice a year. Students are divided between

online and "traditional" instruction. There are 26 students in each class, and there are multiple classes. The seniors have a heavy testing period in mid-October and then take a capstone course in the last 3-4 weeks of the program.

Graduation requirements

Students must score at least an 850 on the HESI exit exam. If they don't, they can take the exam 2 more times. If they are still not successful they are not allowed to graduate but can continue remediation. Last semester, there were 5-6 students who had to take the HESI for a fourth time, and then had to take another long semester.

Prior PassPoint Usage

Dr. Flores used PassPoint a little a couple of years ago, but students don't use it routinely. Feedback was positive at the time, but the college of nursing as a whole did not adopt PassPoint.



Course and requirements

Dr. Flores and a colleague teach a course for students who are struggling in some way. They may have failed a course, or not done well on their HESI exam. The course is *Professional Nursing and Life Skills* and some students are required to take it to help with remediation. Some students, however, self-select into the course. The course is a whole semester course and students can take it at different points in the program.

Exams

For the exit exam, students are required to score 850 or higher. For the course exam, a minimal score is not required; however, students who score less than 750 on two course HESIs are required to take the Student Success course. If students score less than 700 on the fundamentals, MS, or CC course HESI, they must take the Student Success course.

PassPoint Implementation

Dr. Flores participated in a trial of PassPoint beginning in September, 2013. All students enrolled in the course were given access (the group is a mix of juniors and seniors). Access continued into the spring semester with an overall group of 44 students participating.

Students

The breakdown of students in the sample is shown in Table. Within the sample there were 16 graduate nurses (GN). These are students who have graduated, but not yet taken the NCLEX, or have taken the NCLEX and failed. The 15 RN students are those who have graduated and taken and passed the NCLEX. The remaining students are either senior level 1 or 2 students who are not yet eligible to graduate and take the NCLEX exam. These students did, however, use PassPoint as part of the *Professional Nursing and Life Skills* course.

	Frequency	Percent
Dropped program	1	2.3
GN	16	36.4
RN	15	34.1
SR I	2	4.5
SR II	10	22.7
Total	44	100.0

Results

Overall PassPoint usage for all students is shown in Table 2, and for PassPoint practice exams in Table 3. The student who dropped out of the program was not included in subsequent analyses.

	N	Min	Max	M	SD
Log Ins	42	1.00	203.00	26.76	35.63
Quizzes	43	.00	491.00	57.30	85.96
Questions	43	.00	9634.00	803.60 *	1615.87
ML	43	.00	7.50	2.61	1.62
Chapters	43	.00	29.00	13.14	10.37
Client Needs	43	.00	8.00	3.33	3.31

The median number of questions answered across the sample was 329. Median was calculated given that there was a large standard deviation (and one outlier student who answered 9,634 questions).

	N	Min	Max	M	SD
Practice Exams	43	.00	12.00	1.58	3.00
NCLEX Quests	43	.00	1465.00	138.14	286.35
NCLEXML	43	.00	8.00	2.58	3.54
Rem Views	43	.00	96.00	12.91	22.27

While all but two students used PassPoint for practice quizzes, 62.8% of students did not use the PassPoint practice exams. Exam frequency is shown in Figure 1. Sixteen students took practice exams and of those who did, the average number of exams was 6.93 ($SD = 1.71$).

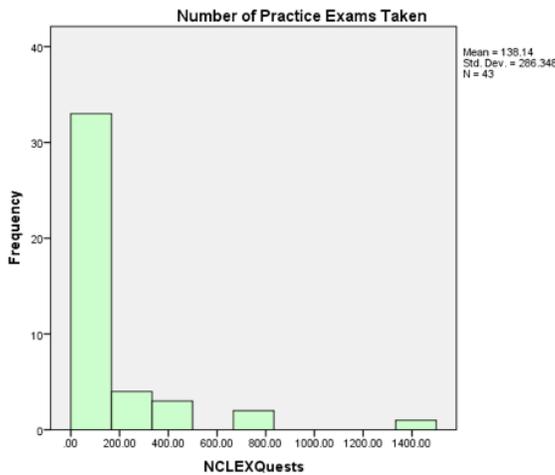


Figure 1: Frequency of Practice Exam usage

Students either took the course online or in a traditional face-to-face instruction context. Across the sample, there were two students who logged in to PassPoint one time but did not take any quizzes or practice exams. Both of these students were in the online section.

Overall usage and mastery was compared between the online and traditional students. Comparisons revealed no significant differences in PassPoint quizzing or ML between the online group (N = 18) and the traditional group (N = 24). Nor were there significant differences in practice exam usage and ML between the two groups.

Students with NCLEX Outcome Data

Of the students in the study, only 15 have taken the NCLEX and reported back results. This is because the *Professional Nursing and Life Skills* course is open to students at both the junior and senior level and some are still enrolled in the program, or have only recently completed it. PassPoint Quizzing usage for this group is shown in Table 4.

Table 4: PassPoint Quizzing Usage and Mastery (N = 15)

	N	Min	Max	M	SD
Log Ins	15	1.00	67.00	21.33	19.23
Quizzes	15	1.00	107.00	39.40	37.51
Questions	15	20.00	1875.00	521.80	578.37
ML	15	.00	4.30	2.28	1.10
Chapters	15	.00	29.00	15.33	10.14
Client Needs	15	.00	8.00	4.60	3.58

One student in the group did not use PassPoint and so was eliminated from the group for the analyses. It is interesting to note that one student who did not pass the NCLEX on the first attempt (but who was successful on the second attempt) was the one student who did not use PassPoint. Table 5 shows PassPoint usage and mastery for those students who used PassPoint and took the NCLEX.

Table 5: PassPoint Quizzing Usage and Mastery (N = 14)

	N	Min	Max	M	SD
Log Ins	14	2.00	67.00	22.79	19.08
Quizzes	14	2.00	107.00	42.14	37.33
Questions	14	20.00	1875.00	557.50	582.80
ML	14	1.20	4.30	2.44	.93
Chapters	14	1.00	29.00	16.43	9.56
Client Needs	14	.00	8.00	4.93	3.47

Five of the students who used PassPoint quizzes and passed the NCLEX did not use the practice exam feature. Exam usage as well as remediation link views for those who did use the exam are shown in Table 6.

Table 6: PassPoint Practice Exam Usage and Mastery (N = 9)

	N	Min	Max	M	SD
Practice Exams	9	1.00	12.00	4.67	4.09
NCLEX Quests	9	75.00	1465.00	440.56	450.09
NCLEX ML	9	1.10	8.00	6.78	2.22
Rem Views	9	.00	96.00	24.67	33.27

Of the 14 PassPoint quizzing users, 9 used PassPoint to take practice exams.

The average number of exams was 4.67 ($SD = 4.09$) and average exam ML was 6.78 ($SD = 2.22$). Students also had access to remediation links within PassPoint. The average number of links accessed was 24.67 with the maximum of 96. The median number of remediation views accessed was 8. Three students did not access the links at all; one student accessed one link, and the rest between 8 and 96.

The student who accessed 96 remediation links had the highest overall mastery and usage across both sections of PassPoint.

Of the 14 PassPoint users, all but one passed the NCLEX exam. Thirteen students passed on the first attempt and one did not pass. PassPoint usage is shown for these two groups below (Table 7).

NCLEX Outcome		Log Ins	Quizzes	Questions	ML	Chapters	Client Needs
Passed (N = 13)	Mean	23.77	43.69	589.08	2.54	16.69	4.77
	SD	19.49	38.38	594.00	.90	9.89	3.56
Failed (N = 1)	Mean	10	22	147	1.2	13	7
	SD						
Total	Mean	22.79	42.14	557.50	2.44	16.43	4.93
	N	14	14	14	14	14	14
	SD	19.08	37.33	582.80	.93	9.56	3.47

Of course, with only one person not passing (a 93.3% pass rate) there is no variation and thus it is not possible to make meaningful comparisons based on passing/not-passing the NCLEX.

All of the students who used the PassPoint practice exam feature passed the NCLEX. The student who did not pass had very low PassPoint quizzing usage, quizzing ML of 1.2, and had no practice exam usage.

Of the students who passed the NCLEX and used PassPoint, the average ML was 2.54 and the average exam ML was 6.78. The quizzing ML is lower than we often see, but with the introduction of the practice exam feature, students are dividing their quizzing (in some cases) between regular adaptive quizzing and the longer, NCLEX-style exams

in PassPoint. The average exam ML for those passing the NCLEX was 6.78 ($SD = 2.22$).

In prior studies, we have explored the trends within prepU and PassPoint and the relationship between ML and usage. A Pearson product moment correlation revealed a significant positive correlation between number of questions answered and overall ML, $r(41) = .774, p < .001$. There was also a strong positive correlation between number of chapters quizzed on and ML, $r(41) = .610, p < .001$ (see Table 8). Thus, as students answer more quiz questions on a wider breath of topics, the difficulty level of the questions increases—indicating that their content mastery is increasing.

		Questions	ML	Chapters
Questions	Pearson Correlation	1	.774**	.538**
	Sig. (2-tailed)		.000	.000
	N		41	41
ML	Pearson Correlation		1	.610**
	Sig. (2-tailed)			.000
	N			41
Chapters	Pearson Correlation			1
	Sig. (2-tailed)			
	N			41

** . Correlation is significant at the 0.01 level (2-tailed).

Students in the study sample used PassPoint as part of a trial. Not all students were (at the time of the trial) close to graduation and are still in the nursing program. One group of students used PassPoint and went on to take the NCLEX (N = 15). Within this group the pass rate was 93.33%. Analyses will be updated as additional NCLEX results become available.