

Case Study

Helping Students Achieve First-Time NCLEX Success

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SUMMARY OF FINDINGS

- **The study sample had a 92.1% NCLEX pass rate and an average NCLEX-RN 10,000 Mastery Level of 5.92.**
- **The median number of NCLEX questions, for those students who reported, was 75.**

Study Sample

The School of Health Sciences at WSSU is currently the fourth largest producer of nurses in North Carolina. The population in the nursing program is around 220 students. Some of these are in the accelerated option (around 25%) and the rest are in the traditional, non-accelerated program. The nursing program at WSSU is a two-year baccalaureate program following two years of general education courses. Students used prepU and NCLEX-RN 10,000 as part of an institution-wide efficacy study. Several

cohorts of students participated in the study and for this analysis we focus on students in the accelerated option at WSSU, who were eligible for graduation in February, 2013.

The original cohort comprised 45 students. Of these, six students failed to meet the criteria for the accelerated option and one student decided to leave nursing school. The final number of students included in the analysis was 38. Of the 38 students in the class, 4 did not use prepU as part of a class (they didn't use the class code). Throughout the program, students had access to NCLEX-RN 10,000 in various courses. The number of prepU products used by students for whom we have this information ($N = 34$) is shown on the following page.



prepU Products Used Throughout the Program

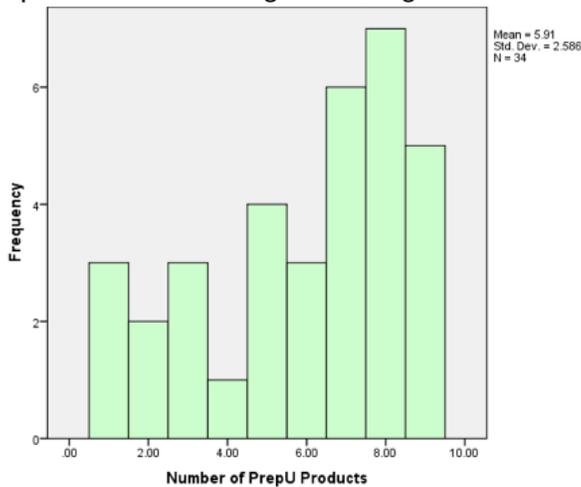


Figure 1: Number of prepU products used throughout nursing program

Students used an average of 5.91 prepU products throughout the nursing program. The maximum number available was nine, and there were five students who used all nine. Students who logged into a prepU product fewer than three times were not included as having used the product.

NCLEX-RN 10,000 usage

Usage of NCLEX-RN 10,000 is shown in Table 1 below.

Table 1: NCLEX-RN Usage and Mastery					
	N	Min	Max	M	SD
Num Log Ins	38	43.00	202.00	85.16	36.11
Num quizzes	38	47.00	126.00	68.61	20.80
Num Quests	38	2089.00	4721.00	2631.24	512.00
Mastery Level	38	4.90	7.10	5.92	.49
Num Chapters	38	17.00	41.00	26.71	4.83

Overall students answered an average of 2631.24 questions ($SD = 512$), 68.61 quizzes ($SD = 20.80$), and had an average ML of 5.92 ($SD = 0.49$). ML variance was low, and the lowest overall ML a 4.9.

NCLEX Outcomes

To date, all of the 38 students in the cohort have taken the NCLEX-RN exam. The pass rate for the cohort was 92.1% with 35 students passing the exam and 3 students not passing. NCLEX exam question data were available for a subset of students ($N = 20$). Question frequency is shown in Figure 2 (below). The average number of NCLEX questions was 97.10 ($SD = 57.53$), but given the distribution, the median is a more appropriate measure. The median in this sample was 75 questions. Only one of the students who did not pass the NCLEX reported the number of questions. This student saw 250 questions on the exam.

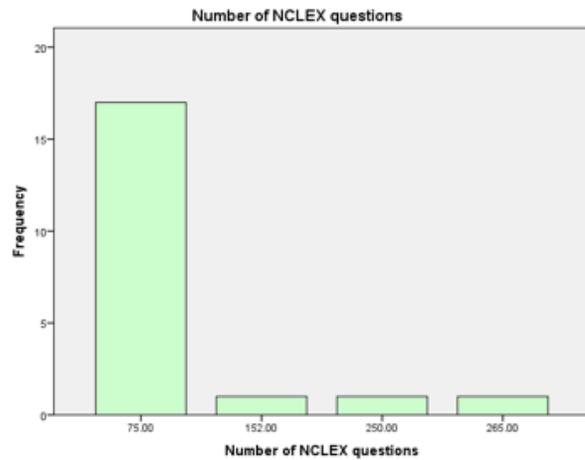


Figure 2: Number of NCLEX questions for those reporting data

Comparison of Passing and Non-Passing Students

Typically a binary logistic regression would be conducted to determine if any of the prepU variables could accurately predict NCLEX success. Given the small number of students in this sample who did not pass the NCLEX ($N = 3$), it was not feasible to conduct a regression analysis as the event of failing the NCLEX is too rare.

Table 2 below compares the usage and ML of the two groups. The non-passing group, however, is too small to permit any meaningful comparisons between the number of quizzes or questions answered by two groups (or ML), given the different sample sizes.

	Passed NCLEX	N	Mean	SD
Log Ins	Yes	35	86.77	37.13
	No	3	66.33	10.69
Quizzes	Yes	35	69.14	20.76
	No	3	62.33	24.85
Questions	Yes	35	2644.83	526.14
	No	3	2472.67	320.35
ML	Yes	35	5.92	.50
	No	3	5.90	.35
Chapters	Yes	35	26.86	5.01
	No	3	25.00	.00

Prior prepU Usage

Students had access to prepU in most courses throughout the nursing program. Table 3 compares the number of overall products (a measure of overall prepU) between the NCLEX passing and non-passing groups.

Number of prepU Products			
Passed NCLEX	M	N	SD
Yes	6.06	31	2.59
No	4.33	3	2.31
Total	5.91	34	2.59

Students who failed the NCLEX used fewer overall prepU (throughout their nursing program) than those who passed (6.06 vs. 4.33). Again, given the small number of students in the non-passing group, no statistical test is feasible.

Conclusions

All students in the study group made use of prepU to help prepare for the NCLEX. Students answered an average of 2,631.24 questions during their preparation. The minimum number of quizzing questions was 1,900 and the largest number was 4,470. To date 92.1% of students passed the NCLEX on their first attempt and had an average quizzing ML of 5.92.

We often see a correlation between quizzing activity and mastery which indicates usage of prepU leads to demonstrated ability to correctly answer more difficult question—thus with increased usage, student mastery of the content improves. We did not see that same pattern with this group of students—likely because there was very little variance in overall ML. If all students are around the same ML and seem to stop there, it is harder to tease out possible differences which may be seen with a different implementation (one in which we see a wider spread of overall ML between students).

The analyses reported above are retrospective and were used to explore the relationships between student usage of prepU and NCLEX outcomes. We can make no assertions as to causal relationships in the above analysis—in other words we can't say that using prepU caused students to pass the NCLEX. These findings do, however, reflect other findings in which prepU ML for students who passed the NCLEX was ~4.0. Clearly, the ML in this group was higher which may be a function of students using prepU in earlier courses and gaining more familiarity with the system.

The nature of the NCLEX data (pass/fail) and the high percentage of students passing the NCLEX on their first try renders analysis complex as there is little or no variation in student outcomes. With only three students not passing, it is difficult to discern much about potential, significant group differences which may impact success on the exam. Those

who passed the exam did use more PrepU products overall (6.06 vs. 4.33) and all usage and ML statistics were higher for those who passed vs. those who did not. These patterns are encouraging and suggest that using prepU as an ongoing component of an NCLEX preparation strategy can be beneficial to students as provides continuing, ongoing measures of student learning and progress. As the student engages with the program, they get practice answering questions, increase their mastery and continue learning.