

## Case Study

# Helping Students Achieve First-Time NCLEX Success

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### SUMMARY OF FINDINGS

- Students used prepU as part of their NCLEX preparation course.
- 97% of students passed the NCLEX on their first attempt.
- Average NCLEX-RN 10,000 Master Level (ML) was 5.6
- ATI predictor tests were not correlated with ML and did not accurately predict NCLEX success.

Clinical Decision Making is taken in the final semester of the nursing curriculum. The course has no lecture component and is made up of small-group presentations. Students create lessons on areas where they feel they need help (their weaker areas) and the goal is that they teach each other. NCLEX-RN 10,000 is used specifically to help students identify areas where they need help, and where they can focus their lessons. The idea is that each student teaches a group of their peers about a certain topic. In the spring 2012, there were 32 students in the course.

In the fall of 2008, Lander University changed their testing and graduation policies. Previously, the institution had required students to pass at least one of three NCLEX predictor exams to gain State Board of Nursing endorsement. The school attached this policy as part of a didactic course. If students did not satisfy this requirement, they were not able to pass the course, thus precluding them from graduating. The school removed the predictor test results as a graduation requirement for pre-licensure nursing students. Students were still required to pass (95% level) at least one of three NCLEX predictor exams, but if they were unsuccessful, they now were required to take an approved NCLEX review course after graduation.

### Course Grading Policies and Assessment

Course grades are made up of:

- Twenty-four graded lesson plans (2 per week)
- Audit of the questions taken within NCLEX-RN 10,000
- Three NCLEX predictor exams (ATI)

- Students must reach a mastery level of 5 by the end of the semester.

Professor Davenport set a minimum for the ML for students to reach by the end of the semester at 4.3. This ML was selected based on the average ML achieved by students who passed the NCLEX exam after a pilot semester using NCLEX-RN 10,000. To consistently track the ML, students were told to choose all question categories each week for the system to create the quiz. There were times at the end of the semester that the students chose to work on weak areas bringing down their ML in subcategories. However, their overall ML was above the set minimum.

Students were required to answer 100 NCLEX-style questions per week within the AQS platform. There were times, however, that students used their supplemental NCLEX preparation textbook to complete their weekly questions due to lack of Internet access. However, each student was held to the standard that they had to reach a ML by the end of the semester. To help motivate students to perform on the predictor exam, students who passed a previous predictor had the number of required questions per week reduced to 75 questions per week until the next predictor. Also, the week of the next predictor exam, students who had passed the last exit did not have to do practice questions.

## NCLEX-RN 10,000 Usage

All 32 students used NCLEX-RN 10,000 to take quizzes. The average number of quizzes was 145, the average number of questions 1,514 (with a maximum of 2,494), and the average mastery level 5.55 (see Table 1).

**Table 1: Student prepU Usage Data**

	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>M</b>	<b>SD</b>
Number of Log Ins	32	24	89	51.94	17.07
Number of Quizzes	32	75	265	145.03	43.34
Number of Questions	32	1020	2494	1514.84	347.65
Overall Mastery Level	32	4.60	7.10	5.55	.60

As the students are required to achieve at least an average mastery level of 5, the variance of mastery level is small with a minimum of 4.6 and a standard deviation of only .599.

## NCLEX Predictor Outcomes

Scores for the three NCLEX predictor exams are shown in Table 2. Scores on the first predictor exam (P1) resulted in a mean score of 88.94% ( $SD = 8.04$ ). Based on the first predictor test, 7/32 students achieved 95% or higher (the required passing threshold for the test). For the second predictor (P2), 16 students scored at 95% or above. For the third predictor, 9 students scored at 95% or above. Interestingly, the scores for P3 ranged from 91-96%.

**Table 2: NCLEX Predictor Outcomes**

	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>M</b>	<b>SD</b>
Predictor 1 Score	32	43	84	70.41	8.04
Predictor 1 Percent	32	54	99	88.94	10.67
Predictor 2 score	32	54	89	72.37	8.31
Predictor 2 Percent	32	51	99	89.62	12.15
Predictor 3 Score	32	45	73	61.25	6.04
Predictor 3 Percent	32	91	95	93.87	.98

Although for each predictor there was a large percentage of the class who did not pass (achieve the 95% passing standard), all but one of the students ultimately passed the NCLEX exam.

No statistically significant data can be gleaned by comparing the passing and not passing groups as the sample size of the students not passing the NCLEX is below the threshold of any statistical tests. What is clear from the data, however, is that there is no discernable pattern between the predictor scores and NCLEX outcome. Based on all three predictors, there were 15 students (46.9%) who did not achieve the threshold of 95% predicted success, and yet 14 of these students passed the NCLEX on their first attempt.

Integral to the course was usage of NCLEX-RN 10,000. Indeed, use and mastery within the system was built into the course requirements. To determine the relationship between NCLEX-RN 10,000 usage and mastery data we created four groups based on predictor test score patterns: one group passed all three predictors, the second group passed two, the third passed three, and the fourth passed none of the tests. Scores for all groups were compared using a one-way ANOVA. Results of the ANOVA indicated no significant differences on NCLEX-RN 10,000 usage or ML based on Predictor Level group. Although students had varying levels of success on the predictor tests, they did not show significantly different patterns of usage of the NCLEX-RN 10,000 or ultimately statistically significant differences in ML.

Table 3 presents NCLEX-RN 10,000 usage statistics depending on NCLEX outcome. It is difficult to glean meaningful comparisons between the number of quizzes and questions answered by the two groups given the different sample sizes. It is interesting to note, however, that in an adaptive system the number of questions answered by a student should not necessarily relate to their ML—although in some cases it might. A student who is not mastering the content as quickly will likely answer more questions than a more capable student in order to achieve the same ML. This pattern was seen here—albeit with one student. Students who passed the NCLEX answered an average of 1,483.26 questions compared to an average of 2,494 for the student who did not pass. The NCLEX passing group, however, had a higher overall ML than the student who failed.

**Table 3: prepU usage by NCLEX outcome**

Pass or Fail NCLEX		Number of Quizzes	Number of Questions	ML
Fail	Mean	265.00	2494.00	4.7000
	N	1.00	1.00	1.00
	SD	.	.	.
Pass	Mean	141.16	1483.26	5.58
	N	31.00	31.00	31.00
	SD	38.03	303.15	.59
Total	Mean	145.03	1514.84	5.55
	N	32.00	32.00	32.00
	SD	43.34	347.65	.60

## Discussion

The three predictor exams used in the course were not found to be significant predictors of NCLEX success. We acknowledge that the removal of the predictor-related high stakes graduation requirement may have reduced students' overall motivation concerning the predictor tests. This may, however, have been balanced by eliminating the potential test anxiety caused by the previous policy. To help combat possible student complacency regarding the predictors, the faculty used strategies to extrinsically motivate students to do well on the predictors. Students were given incentives to pass the exams including a reduction in the required number of practice questions and the number of in-class assignments each week. Prior to the change in policy, there were usually one or two students each semester who were denied graduation based on not meeting the predictor criteria. With the new policy, fewer students passed the predictors but the school's NCLEX pass rate was not impacted.

Results do not support the practice of using predictor exam scores as part of a graduation or progression policy. Rather, the analyses reported here support conclusions about the validity, accuracy, and feasibility of using predictor scores to preclude progression (for example, Morin, 2006; Spurlock & Hunt, 2008). Data collected for this study indicated that it is possible for students who were categorized as "at-risk," based on predictor scores, to ultimately successfully pass the NCLEX exam on the first attempt. Most importantly, students predicted to fail the NCLEX by this school's standards proved they had the ability to pass the NCLEX on the first try. These data indicate that it could be a mistake to withhold students from graduation based only on predictor test thresholds as most of these students ultimately end up succeeding.

The relationship between taking and passing the predictor exams was also a noteworthy finding. The nursing program in this study required students to take three predictor

exams, but student scores did not vary significantly across the tests (looking at the first predictor as a reference point). Thus, perhaps the time spent taking all three predictor exams could be better utilized in more active studying and learning activities.