

## Case Study

# Prairie View: PassPoint and NCLEX Outcome

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### SUMMARY OF FINDINGS

- Students were given optional access to PassPoint to help prepare for the NCLEX.
- There was a 97.3% NCLEX pass rate within the group of students who used PassPoint and have taken the NCLEX exam.
- Average quiz ML for students who passed the NCLEX was 2.98. Average exam ML was 7.62.
- There was a significant, positive correlation between PassPoint quiz ML and the number of practice quiz questions answered
- Students with a higher quiz ML were more likely to have a high exam ML and higher level of usage overall

This retrospective case study is part of a larger, institutional research effort within a BSN nursing program in Texas. The study school uses HESI Exit Exam as part of an NCLEX preparation strategy had decided to incorporate PrepU into their nursing programs. PassPoint was offered to students starting in late spring 2013. The broader, multi-pronged efficacy project is investigating PrepU usage and subsequent impact on student learning outcomes and teaching practices.

### Usage Summary for Students Using PassPoint

During the spring, 2013 and fall, 2013 semester students in the study sample who had not yet taken the NCLEX were provided access to the new PassPoint product which included access to longer, adaptive practice exams as well as the existing practice quizzing features. Usage of all features of the product by this group is shown below. The data below show both practice quizzing and exam usage within PassPoint.

	N	Min	Max	M	SD
Number of Quizzes in PP	40	3	443	53.35	73.91
Number of Questions in PP	40	50	3,122	626.43	589.96
ML in PP	40	1.00	7.30	3.03	1.36
Number of Practice Exams in PP	42	1	30	6.26	6.95
PassPoint Exam ML	42	5.62	8.00	7.64	.57

Forty-two students used PassPoint with two students using only the practice exam feature and not the adaptive quizzing (see Table 1). Usage was varied with some students taking very few quizzes or exams. The average quizzing mastery level (ML) was 3.03 ( $SD = 1.36$ ) and average exam ML 7.64 ( $SD = .57$ ).

### Frequency of PassPoint Exams

Adaptive practice exams were available in PassPoint. Figure 2 below shows student usage of these exams (for those students who had access to PassPoint). Students took a median of 4 exams, with 40% of students taking 1 or 2 only.

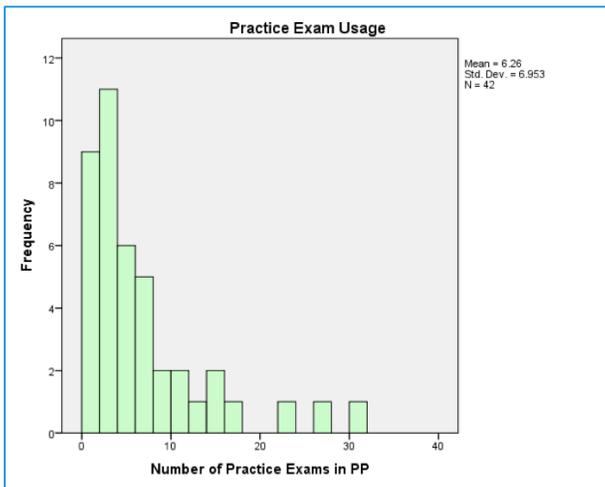


Figure 1: Number of practice exams taken by PassPoint users

### Within PassPoint Correlations

We used a Pearson product moment correlation to explore the relationship between PassPoint usage and subsequent ML (which is a reflection of the average question difficulty students are answering correctly). There was a significant, positive correlation between PassPoint quiz ML and the

number of practice quiz questions answered,  $r(40) = .681$ ,  $p < .01$ , as well as PassPoint exam usage and mastery. This pattern indicates that those students with a higher quiz ML were more likely to have a high exam ML and higher level of usage overall (see Table 2).

		PassPoint Quiz ML	Number of Practice Exams	PassPoint Exam ML	Number of Quiz Questions in PassPoint
PassPoint Quiz ML	Pearson Correlation	1	.441**	.393*	.681**
	Sig. (2-tailed)		.004	.012	.000
	N		40	40	40
Number of Practice Exams	Pearson Correlation		1	-.027	.626**
	Sig. (2-tailed)			.865	.000
	N			42	40
PassPoint Exam ML	Pearson Correlation			1	.108
	Sig. (2-tailed)				.506
	N				40
Number of Quiz Questions in PassPoint	Pearson Correlation				1
	Sig. (2-tailed)				
	N				40

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

Exam ML was not correlated with the number of exams taken. In this group of students we saw varied practice exam use with 40% of the sample taking 1 or 2 practice exams only. In addition, the way ML is calculated for exams results in a lower variance in exam ML, which also may contribute to this finding.

### PassPoint Usage and NCLEX Success

Of the 42 students who used PassPoint, NCLEX data were available for 37 students. Of this group, 36 (97.3%) passed the NCLEX. 35 students passed on the first try and one student passed on the second attempt. PassPoint usage is shown below for all students, grouped by NCLEX outcome or status.

NCLEX Result		Number of Questions	Quiz ML	Remediation Link Views	Number of Exams	PassPoint Exam ML
not taken	M	568.20	3.08	0	8.00	7.82
	N	5	5		5	5
	SD	503.85	.91		12.39	.17
yes	M	615.53	2.98	18.66	5.89	7.62
	N	34	34	6	36	36
	SD	605.52	1.42	16.87	6.15	.61
no	M	1,288.00	4.50	0	11.00	7.45
	N	1	1		1	1
	SD	.	.		.	.
Total	M	626.43	3.03	14.00	6.26	7.64
	N	40	40	8	42	42
	SD	589.96	1.36	16.67	6.95	.57

Students who passed the NCLEX answered an average of 615.53 questions, although as the standard deviation was large, the median (420) is a better measure. Average quizzing ML was 2.98 ( $SD = 1.42$ ) and the average exam ML was 7.62 ( $SD = .61$ ). Students in the group who passed the NCLEX accessed an average of 18.66 remediation links (compared to 0 for the other two groups). It is interesting to note, that the student who did not pass the NCLEX displays a higher usage pattern than those who passed the exam. Data are collected cumulatively and so we often see a pattern such as this emerge; students who don't pass the NCLEX may continue using PassPoint to prepare for subsequent NCLEX attempts.