



Turning student remediation into readiness using Focused Review®

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Introduction

Students often cringe at the thought of remediation. After all, it can carry a negative connotation. Remediation can be interpreted as removing or fixing a deficit in students who are supposed to know something but don't (Logue, 2021). However, at ATI, we understand that students have much to learn in a short period. Reviewing learned information does not demonstrate a deficit. On the contrary, it shows a student's strength and self-awareness to understand the need to review previously learned content. That is the beauty of our Focused Review (Fairchild, 2022).

Focused Review, a tutorial based on test questions missed, is a remediation program focused on improving students' knowledge in the content area/s they answered incorrectly. Students can review content after practice and proctored assessments. They only spend time on areas they need to and can benefit from the review in many ways. They can be assured of what they understood and answered correctly. They can make connections to the course content and reinforce learning by recognizing what they answered incorrectly and why it was incorrect.

We wanted to take a deeper look at the benefits of ATI's Focused Review as it relates to student success. The ATI research team developed a study of student test scores before and after using Focused Review to determine if it made a difference in student outcomes. Specifically, the purpose of the study was to determine whether completing the Focused Review led to improved scores on the RN Content Mastery Series (CMS) tests, improved scores on the RN Comprehensive Predictor (CP), increased proficiency level on RN CMS tests, and increased probability of passing the NCLEX exam.

Methods

We examined the impact of Focused Review on student performance for the proctored exams. We used the one-group pretest-posttest design in which the outcome of a nonrandom group of participants is measured two times: once before and once after the treatment (i.e., Focused Review). Our null hypothesis was that the treatment had no effect, i.e., participants'



performance on pretest and posttest would be equal. To ensure the observed effect is only due to the treatment, not because of maturation, we selected only the participants who took their pretest within 30 days prior to the Focused Review and posttest within 30 days after the Focused Review.

Test scores from students' first attempt (pretest) and second attempt (post attempt) scores were compared using four types of analysis:

1. pre-post comparison of the RN CMS scores before and after completing the Focused Review
2. pre-post comparison of the CP scores before and after completing the Focused Review
3. pre-post comparison of RN CMS proficiency level percentage before and after the Focused Review
4. pre-post comparison of the predicted probability of passing the NCLEX before and after completing the Focused Review.

For this analysis, the researchers extracted CMS and CP test scores for students who completed a Focused Review between May 2021 and May 2022. This resulted in 10 samples for all CMS content areas and CP tests (see column “*n*” in Table 1 for sample size). Each sample contains students from ADN, BSN, and diploma programs across the nation.

Results

The resulting data demonstrated statistically significant improvements in all CMS and CP content areas. Table 1 describes the CMS and CP scores before and after completing the Focused Review for each subject matter. Notably, scores improved between 7 and 11 points (mean gains in Table 1), a statistically significant increase by paired samples *t*-test analyses (Zimmerman, 1997). The greatest improvement in the CMS content areas occurred in Maternal Newborn by 11.1 points, $t(796) = -17.8, p < .01$. The lowest improvement in the CMS content areas was Pharmacology by 8.0 points, $t(560) = -10.0, p < .01$. The mean CP total score improved from a prescore of 68.5% to a post-score of 75.6%. This results in a statistically significant increase by 7.1%, $t(2194) = -23.1, p < .01$.



Table 1. Comparison of CMS/CP test scores prior and after completing Focused Review.

	Before FR			After FR			Mean Gains	t	df	p
	n	M	SD	n	M	SD				
Adult Medical Surgical	523	62.7	8.1	523	72.4	10.4	9.7	-16.8	1044	<.0001
Community Health	238	66.5	7.0	238	76.0	9.6	9.5	-12.3	474	<.0001
Fundamentals	747	57.1	8.3	747	67.1	10.4	10.0	-20.5	1492	<.0001
Leadership	253	68.2	7.1	253	77.9	8.7	9.7	-13.8	504	<.0001
Maternal Newborn	399	58.3	7.9	399	69.3	9.6	11.1	-17.8	796	<.0001
Mental Health	344	59.5	7.7	344	70.0	8.6	10.5	-16.9	686	<.0001
Nursing Care of Children*	343	59.1	7.5	343	68.5	9.6	9.3	-14.2	684	<.0001
Nutrition	308	58.4	7.3	308	68.5	10.6	10.1	-13.8	614	<.0001
Pharmacology	281	62.2	8.7	281	70.2	10.2	8.0	-10.0	560	<.0001
Comprehensive Predictor	1098	68.5	7.2	1098	75.6	7.3	7.1	-23.1	2194	<.0001

In addition to the marked improvement on test scores after Focused Review, students' proficiency levels and positions on ATI's grading format (Levels <1, 1, 2, 3) improved (Table 2). The percentage of students decreased in the lower proficiency levels (Below Level 1 and Level 1) but increased in the higher proficiency levels (Levels 2 and 3) after the completion of the Focused Review program. For example, according to a commonly used benchmark for CMS (Level 2), of the 523 students who completed the Adult Medical Surgical CMS, 88.2% (461 students) fell below Level 2 before Focused Review (see Figure 1). After completing the Focused Review, only 30% (157 students) fell below the benchmark. Clearly, Focused Review, with its individualized coverage of content and concepts, greatly helps students strengthen their knowledge and better prepares them for NCLEX.

*Starting with the 2023 blueprint, the assessment name changes to Pediatric Nursing.



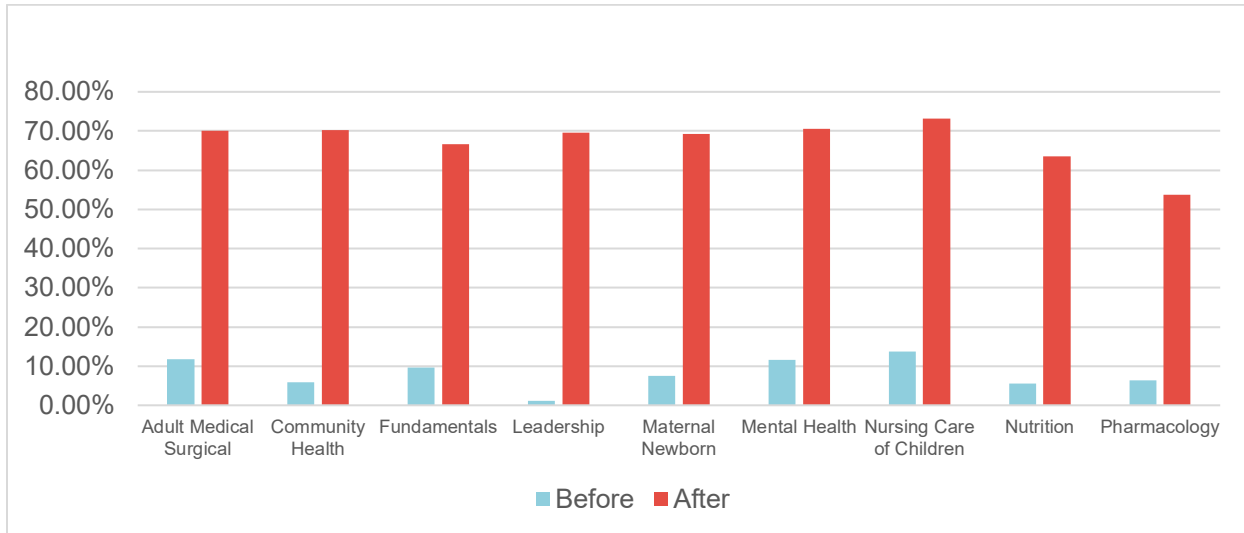
Table 2. Comparison of RN CMS proficiency level percentage before and after completing Focused Review.

	Below Level 1		Level 1		Level 2		Level 3	
	Before	After	Before	After	Before	After	Before	After
Adult Medical Surgical	17.6%	5.0%	70.6%	24.3%	10.5%	52.6%	1.3%	17.4%
Community Health	9.7%	2.9%	84.5%	26.9%	5.0%	50.0%	0.8%	20.2%
Fundamentals	16.6%	5.9%	73.8%	27.4%	9.2%	58.1%	0.4%	8.6%
Leadership	13.0%	2.4%	85.5%	28.1%	1.2%	63.2%	0.0%	6.3%
Maternal Newborn	28.8%	6.3%	63.7%	24.6%	7.5%	60.7%	0.0%	8.5%
Mental Health	29.9%	6.1%	58.4%	23.3%	11.6%	67.4%	0.0%	3.2%
Nursing Care of Children*	12.0%	4.1%	74.3%	22.7%	12.0%	58.9%	1.7%	14.3%
Nutrition	7.8%	1.3%	86.7%	35.1%	5.2%	54.5%	0.3%	9.1%
Pharmacology	15.7%	4.6%	77.9%	41.6%	6.4%	51.6%	0.0%	2.1%

To demonstrate the improvement across the CMS tests, we created Figure 1.



Figure 1. Comparison percentage of students equal or above Level 2 before and after completing Focused Review.



Achieving a passing score on the national licensure exam for nursing (NCLEX) includes the culmination of all the content on the CMS tests and is required to assure licensure. The ATI Comprehensive Predictor (CP) exam is a predictor of student success on NCLEX. After completion of the CP, students receive a predicted probability of passing NCLEX on the first attempt. Figure 2 shows the significant improvement in the probability of passing after students complete their Focused Review.

Also, in Figure 3, we used a common benchmark (i.e., 90% predicted probability of passing NCLEX) to compare the pre- and post-percentage of students achieving the benchmark. We found that before Focused Review, 30% of the students (n = 329) achieved scores that have 90% or higher probability. After Focused Review, 80% (n = 874) reached 90% or higher probability.



Figure 2. Comparison of the passing expectancy distributions prior to and after completing Focused Review.

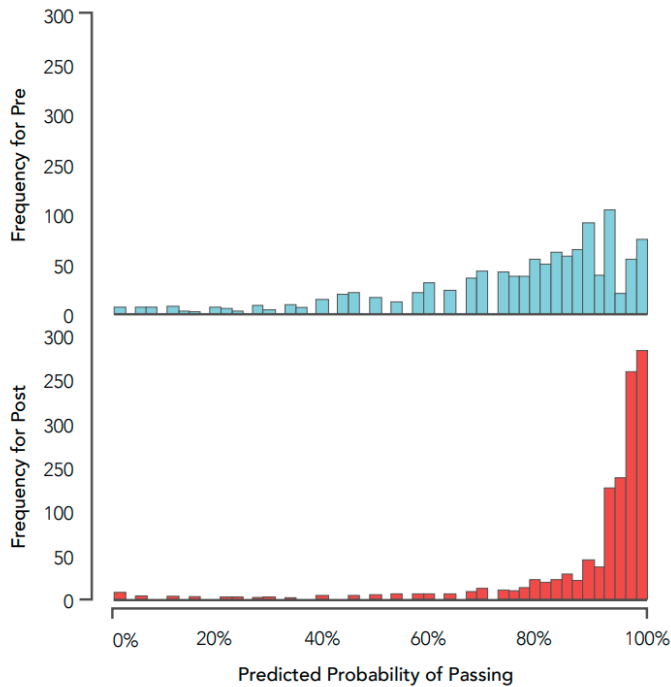
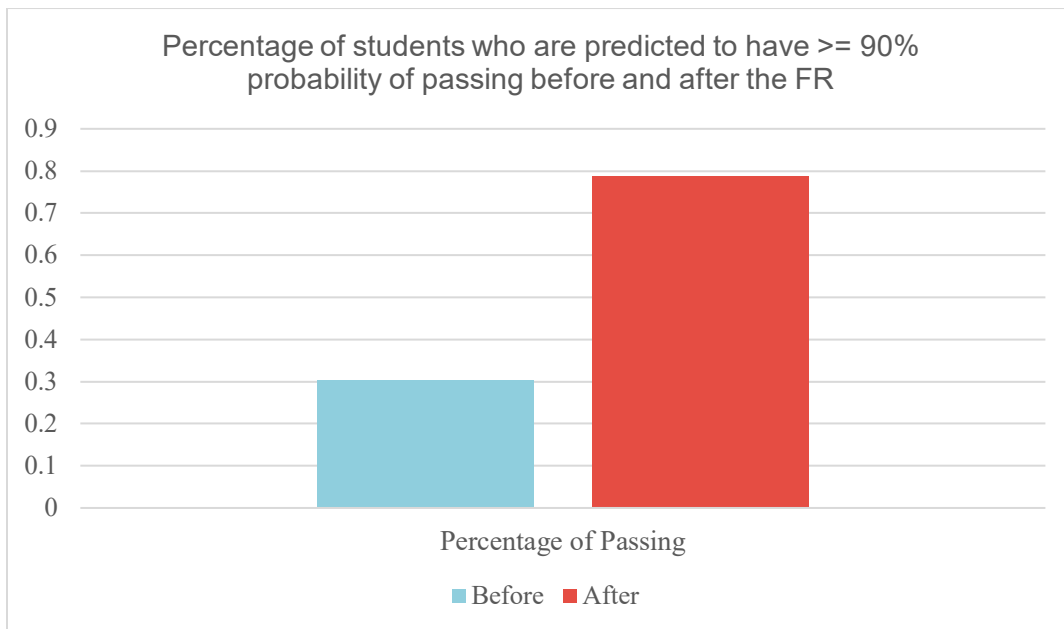


Figure 3. Comparison of the percentage of students who are predicted to have $\geq 90\%$ probability of passing prior to and after completing Focused Review.





Conclusion

Ensuring students are prepared for the NCLEX and their transition into practice is not an easy task. Utilization of tools and strategies that are tested and developed with success in mind makes all the difference. This study shows that the targeted remediation provided by Focused Review improves the mastery of almost every content area throughout the nursing program — and improves the probability of passing NCLEX at the end of the program. Helping students understand the benefits of using Focused Review throughout their nursing program can make the difference between passing and failing. We are here to help.

Limitations

Participation in this study was limited to students who completed the Focused Review and also took the proctored assessments. With limited access to institution curricula, this assumption might not reflect the actual status of the product use. There might be scenarios in which students completed the Focused Review but did not complete the proctored assessment. It should be noted that the pre-post statistical comparison analyses are based on convenience samples extracted from the national database that meet the prespecified scenarios. For reasons not fully known to the researchers, students attempted the proctored test at least twice, with one prior to and another after the Focused Review program. Data from these samples of data were extracted and utilized for the assumed pre-post comparison purposes.

References

- ATI. (2023). Focused review: What it is and how to get the most out of it. ATI Educator Blog. <https://atinursingblog.com/focused-review-what-it-is-and-how-to-get-the-most-out-of-it/>
- Meehan, C.D., & Barker, N. (2021). Remediation for NCLEX-RN success in high-risk nursing students. *Teaching and Learning in Nursing*, 16(3), 254-257. <https://doi.org/10.1016/j.teln.2021.02.003>
- Fairchild, F.A. (2022). Increasing nursing student success with early individual remediation. *Nursing Education Perspectives*. 43(2). 115-117. DOI: 10.1097/01.NEP.0000000000000794
- Logue, A.W. (2021). Who needs remediation? Inside Higher Ed. <https://www.insidehighered.com/views/2021/02/03/academe-should-get-rid-remediation-and-conceptual-framework-surrounds-it-opinion>
- Zimmerman, D. W. (1997). Teacher's corner: A note on interpretation of the paired-samples test. *Journal of Educational and Behavioral Statistics*, 22(3), 349-360.