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# The Impact of HESI<sup>®</sup> Compass<sup>™</sup> on NCLEX-RN<sup>®</sup> Readiness: A Case Study



# THE IMPACT OF HESI® COMPASS™ ON NCLEX-RN® READINESS: A CASE STUDY

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## INTRODUCTION

Student success on the National Council Licensure Examination for Registered Nurses (NCLEX- RN®) holds paramount importance to nursing students and programs. Nursing programs strive to help students become NCLEX ready and successful graduates who can provide safe and effective patient care. The demands of students and faculty to meet these outcomes are great in nursing programs. These requirements are compounded during the final semester of the program with an increased focus on NCLEX-RN preparation and success. This period leading up to graduation is crucial for supporting nursing students' performance, self-efficacy, and motivation for NCLEX-RN preparation. Therefore, effective educational curricula, assessments, and tools are needed to assist faculty in supporting students to be successful on the NCLEX-RN.

Elsevier developed HESI® Compass™ as a comprehensive and customizable course to support nursing students' NCLEX-RN preparation and readiness. The main goal behind the development of HESI Compass was to support nursing faculty and students at the end of a program to bridge the gap from graduation to taking the NCLEX-RN. HESI Compass leverages customized coaching, instructional approaches and measures drawn from learning sciences research, and HESI Exit Exams that are significant predictors of NCLEX-RN success (Elsevier, 2018; Nibert & Morrison, 2013). In an early pilot study undertaken in summer 2019, the Elsevier research team investigated the effectiveness of HESI Compass and found that students made substantial performance gains, had a positive experience, and became well-prepared for the NCLEX-RN.

## HOW HESI COMPASS SUPPORTS STUDENTS

HESI Compass provides a comprehensive study tool for students to review their understanding of nursing content and concepts. Topics provided through HESI Compass are divided into ten conceptual modules reflecting topics that students will encounter on the NCLEX-RN. Additionally, HESI Compass offers students a progressive assessment of content mastery through elements such as:

**HESI Pre-Test:** Prior to the start of the course, HESI Compass students are given an exam to establish a baseline of their performance. This exam is used to identify weak NCLEX-RN content areas and determines study focus areas for the student and coach.

**Module Exams:** Ten module exams enable students to measure whether they have mastered the content in the units they have reviewed.

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**HESI Mid-Course and Final Exams:** HESI Compass also leverages HESI exams at the middle and end of the course to identify areas of strength and improvement, help students track their performance over time, and gauge their preparedness for the NCLEX-RN.

**Practice and Application of Knowledge:** Students receive two personalized study plans with case studies and custom quizzes based on their overall HESI exam performance and NCLEX-RN category scores. Case studies give students the opportunity to apply their knowledge within relevant contexts of nursing practice. The types of questions embedded in the case studies mirror the style of questions that appear in the NCLEX-RN.

**Assessment of NCLEX Readiness:** Ideally, students will exhibit readiness for the NCLEX-RN by scoring a minimum acceptable HESI score of 850 with a goal of scoring a recommended 900 HESI score or higher on at least one HESI Compass HESI exam. These benchmarks were selected based on past research that examined HESI exam policy use and predictive validity (e.g. Barton, Willson, Langford, & Schreiner, 2014).

**Support from an Online Coach:** Students are guided by experienced nursing educators who provide individualized feedback, guidance on effective learning and test-taking strategies, and motivational support to help students succeed on the NCLEX-RN. The coaches are also provided with student assessment and self-reflection data. This helps coaches monitor the progress of students and provide customized support, both just-in-time and on-demand.

**Self-Reflection:** Measures such as the Missed Question Analysis (MQA) support students' self-reflection on missed questions in module exams to address knowledge gaps and improve their HESI exam performance. A pre and post self-efficacy survey assesses student confidence and coaches offer customized support to ensure NCLEX readiness (e.g. test-taking skills, time management, test anxiety).

The Elsevier research team investigated the effectiveness of HESI Compass for NCLEX-RN preparation in the context of a for-profit college located in the Northeastern US. Over a 12-week period in summer 2019, 54 ADN nursing students participated in this study. At the time of the study, students were in the last semester in their nursing program.

The effectiveness of HESI Compass was measured in a number of ways throughout the study using quantitative and qualitative data sources. First, changes in students' performance on HESI exams are reported. To add context to the changes in students' exam scores, findings are presented for custom quizzes, case studies, and student activity as logged by the HESI Compass system. In addition, findings are reported from self-report measures such as self-efficacy surveys and interviews.

## HESI EXAM RESULTS

The Elsevier research team began by reporting students' HESI scores as documented incrementally from the HESI Pre-Test to the HESI Final Exam.

### HESI Pre-Test and Mid-Course Exam

Of the 54 students in the course, 50 students completed both the HESI Pre-Test and HESI Mid-Course Exam.

Students scored an average of 791 on the HESI Pre-Test and 876 on the HESI Mid-Course Exam. The average score increase from the HESI Pre-Test to HESI Mid-Course Exam was 85 points, a statistically significant improvement.

Twenty-four percent of students scored over 900 on the HESI Pre-Test and 42% scored over 900 on the HESI Mid-Course Exam, nearly double as many. Table 1 presents a comparison of the percentage of students and how they scored from the HESI Pre-Test to the HESI Mid-Course Exam:

**Table 1: Change in student scores from HESI Pre-Test to HESI Mid-Course Exam in HESI Compass**

Exam Grades	700 or Below	700-749	750-799	800-849	850-899	900+
HESI Pre-Test	30%	6%	16%	12%	12%	24%
HESI Mid-Course Exam	8%	8%	10%	20%	12%	42%

Students reviewed material between the HESI Pre-Test and the HESI Mid-Course Exam and gauged their content mastery based on their performance on their module exams. The benchmark for mastery was set at 80%. They completed an exam at the end of each module. Performance on the module exams was relatively high, with average scores ranging from 84% to 93%. Of the 10 module exams, 8 had an average score of 90% or better and 90.7% of students had an average module exam score over 80%.

### HESI Final Exam

Since the HESI Final Exam was optional, only 20 students completed the HESI Final Exam. Since this exam was post program and not measured via a grade, the measure was not analyzed in detail due to selection biases.

Of the 34 students who met the success criteria (e.g. minimum 850 score on at least one HESI exam) and completed the HESI Compass course, 94% passed the NCLEX-RN.

## KNOWLEDGE APPLICATION AND STUDENT ENGAGEMENT

Within HESI Compass, 28 students completed at least one custom quiz. The average custom quiz performance was 78% and 52% of students had an average custom quiz score over 80%. Nineteen students completed at least one case study, with an average performance of 94%. About 95% of students had an average case study performance over 80%.

On average, students completed 30 sessions within the HESI Compass system with a session length of 57 minutes. Within the sessions, students on average viewed a total of 1896 pages. Students spent an average of 862 minutes on module exams, 485 minutes on custom quizzes, and 271 minutes on case studies, indicating a high degree of engagement with each of these learning activities. Only 30 students went on to complete the MQA in part because performance was very high. The MQA was only required for students scoring below 80% on the module exam.

## SELF-REPORTED DATA

Self-efficacy was assessed at the beginning and end of the course using a ten question 5-point Likert scale survey (1 is indicative of the most negative answer and 5 is indicative of the most positive answer). Overall, 30 students completed the pre-self-efficacy survey, compared to 14 who completed the post-self-efficacy survey. For the 12 students who took both surveys, the average self-efficacy score on both the pre-test and post-test was four. This finding indicates that self-reported levels of self-efficacy remained relatively high and stable.

Fifteen students completed the post-course student survey which asked them questions about their course experience and perceptions of effectiveness. One key finding of this data is that the majority of students believed that the course helped their ability to pass the NCLEX-RN (most common response = agree, average response = 4). Students generally reported that they felt more confident about their NCLEX preparedness after completing HESI Compass than before taking it (most common response = agree, average response = 3). The rest of the feedback on the survey was also generally positive; students reported that HESI Compass met their expectations (most common response = agree, average response = 4) and that in particular the lessons on test-taking strategies for the NCLEX-RN were helpful (most common response = agree, average response = 4).

## STUDENT INTERVIEWS

Four students participated in the HESI Compass post-course interviews. When asked about the effectiveness of HESI Compass, students believed the course added value to their NCLEX-RN preparation. For instance, HESI Compass helped them understand and practice different question types they would encounter on the NCLEX-RN. Another student referred to the quizzes and case studies as ‘assets’ for those who want to explore specific topics in depth.

In addition, the opportunity to identify areas of weakness, focus on improving those weak areas while reinforcing areas of strength, and test one’s performance made students feel better prepared. One student stated, “HESI Compass targets your deficiencies. It allows you to review what you already know. It gives you an opportunity to test your knowledge without being graded on it, without the pressure. You can test against yourself and that pushes me to see how well I can do.”

Students also found their one-on-one communication with coaches beneficial. Students sought support from their coach while navigating HESI Compass and following the study plan. They reported approaching the coach to better comprehend an assignment or topics featured within specific modules.

Finally, students reported spending about two to four hours a week in HESI Compass, which mapped closely to their actual time spent. Students unanimously reported that this time spent was less than they might ideally have wished given the depth of HESI Compass NCLEX-RN preparatory activities. However, they felt that the time they spent was realistic while they were still in the program and had to manage many commitments. As one student noted, “I wish I spent more time, but you know with school and everything and other things going on, I couldn’t spend any more than that time.”

Given how time-pressed nursing students are, especially as they are getting ready to graduate and prepare for NCLEX-RN, students suggested enhancing communication in HESI Compass, adding routine alerts and reminders to complete

upcoming and pending assignments. Some students reported being unable to get Slack working and ignoring Slack or email messages.

Embedded throughout the HESI Compass experience is the support of a coach who provides students with individualized feedback and guidance on effective learning and test-taking strategies. Because one-on-one communication was designed to be a key aspect of HESI Compass, with coaches sending emails and Slack messages to students, the HESI Compass team has worked to better leverage the communication channels so that the messages are actually received and read on time.

## CONCLUSION

HESI Compass is a comprehensive and customizable course for supporting nursing students' NCLEX-RN preparation and readiness. The Elsevier research team presented evidence obtained on the effectiveness of HESI Compass using performance data, logged system data, and responses on surveys and interviews. The findings revealed that students achieved substantial performance gains, had a positive experience, and became well-prepared for the NCLEX-RN. This study enabled the Elsevier research team to examine what worked and did not work for supporting students' NCLEX-RN readiness, and obtain feedback to improve the effectiveness of HESI Compass.

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