



# Case Study Review: An Effective Teaching Strategy to Remediate Nursing Students to Improve Test Scores

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## Abstract

Remediation of nursing studies has been used to help improve progression and retention in nursing school. However, the format to remediate nursing students effectively is not well documented. Several studies have confirmed that case studies have helped to improve critical thinking skills in nursing students. Furthermore, studies have also concluded that remediation is effective to help improve test scores of nursing students. The purpose of this project was to determine if at-risk nursing students (grades less than 74%) placed on a performance improvement plan (PIP) that included case study analysis with weekly study sessions reviews would improve these students' test scores. In the junior level class, thirteen of the 29 students were not successfully succeeding in this class. These students were placed on the performance improvement plan. The students all completed the requirements of the PIP. The results of this project confirm that remediation with a case study results is an effective methodology to help improve test scores and success within a class. In this project, 50% of the at-risk students successfully completed the course as a result of participation in the PIP.

## Background

Nursing students are held to high academic standards to progress through the nursing curriculum. At the university, nursing students need to maintain a minimum of a C (74%) on tests to successfully progress. Students are dismissed from the program if this grade is not maintained in these classes. By Midterm 2022 in Health Transitions II, thirteen junior level students were not maintaining the C average out of the 29 students. Of those 12 students, four students were already had repeated one nursing course and were at risk of dismissal. To foster success in the course, these students were placed on a performance improvement plan (PIP). In this plan, students were to complete weekly a case study to be submitted on D2L, the learning management platform, that supported the material taught in the lecture. The students also needed to attend at least one weekly study session on Zoom for the case study review.

Remediation would help these vulnerable students to be successful in the course. Merritt [1] identifies students that were at risk at midterm as well. In this article, Merritt implemented workshops that helped to improve students' overall grades [1]. Furthermore, in a cross-sectional study by Brown et al. [2], remediation is a necessary component of nursing education to ensure the student's success [2]. Collaborative learning is a teaching strategy that has been used in nursing. Case study analysis is a means to help students critically

think and apply nursing knowledge to real-life scenarios [3]. In a systematic review, [4] identify that collaborative learning improved students' cognitive performance [4]. Lastly, Seshan et al. [5] reported that case studies are "effective for imparting professional knowledge and skills in undergraduate nursing education and it results in a deeper level of learning and helps in the application of theoretical knowledge into clinical practice. It also broadened students' perspectives and improved their cooperation capacity and their communication with each other. Finally, it enhanced student's judgment and critical thinking skills which are key for their success" [5] (para. 1) With this evidence, a case study approach with weekly study sessions was implemented for this remediation plan.

## Method

The two test scores were averaged at midterm to determine at-risk students. Students who were not succeeding with a 74% average were placed on a performance improvement plan (PIP) which included independent case study reviews with follow-up study sessions for discussion based on curriculum objectives for that week. Twelve students were included in the PIP. These case studies and study sessions were available to all students to participate in, however mandatory for the at-risk students. Students still had the remaining two exams to take. Test scores would be compared after the PIP was initiated to determine if this form of remediation was successful for these students.

This remediation program was based on the Theory of Constructivism by Bruner (1966). In this theory, students learn by an active approach as opposed to a passive approach such as a lecture [6]. The students needed to assimilate their knowledge learned passively in lectures and apply that knowledge to the case studies through interactive discussions. Nursing curriculum is also a building curriculum. This case study and discussion approach encourage students to use knowledge attained in other courses and apply it with the new knowledge to these case studies.

## Results

After the PIP was initiated, all 12 students who participated in the PIP saw an increase in their test scores on the third test. At midterm, the group average of these 12 students was 66%. After the PIP, the third test average for this group was 79%. This is an 8% increase. Furthermore, now 7 of the 12 students were successfully passing the course. Of the 5 students still not passing, four were students that were at risk of dismissal.

The fourth and final test was a comprehensive exam. Of the 12 students, only 11 students took the final exam. One student chose to withdraw from the course. Of the 11 students who took the test, six students successfully passed the course with an average of 74% or better. Of the 5 students who did not pass, three of those students were students that were at risk for dismissal.

### Conclusion

The results of this project confirm that remediation with a case study results is an effective methodology to help improve test scores and success within a class. In this project, 50% of the at-risk students successfully completed the course as a result of participation in the PIP. The majority of students (3 out of 5) who did not pass were students that had already repeated nursing courses in the past. Since this project was based on the Theory of Constructivism, the concern is that the students were not strong in their past knowledge, therefore, could not apply that past knowledge along with new knowledge in case study scenarios. For the overall success of the class, 11 students out of the 29 did not pass the class with a 74% average. Two students withdrew from the course and five students failed after remediation. Of the four other students, those students did not participate voluntarily in the remediation opportunities.

When reviewing the test score of those unsuccessful students, the average grade of the 4 students who did not participate in remediation but had a passing grade at midterm was 75%. In the future, remediation should include those students who are still vulnerable such as students with C averages. Perhaps if these students who were just on the cusp of not passing were mandatorily included in PIP, the result may have been more favorable. Another question for remediation is when to begin. Perhaps if remediation started after

unsuccessful scores after the first test, more students would have been successful.

**Conflict of interest:** The authors declare no conflict of interest.

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