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COMPARISON OF PREREQUISITE GRADES TO SCORES ON THE CRT AND WRRT EXAMS

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Introduction: Respiratory therapy students are accepted into our program based on the assumption that higher grades relate to better outcomes in the program. We sought to determine if there is a statistical difference and/or correlation in the grade a student earns in a prerequisite course and the raw score they achieve on the CRT and WRRT exams. Our null hypothesis is that there is no statistical difference between grades received in prerequisite courses and scores achieved on these exams.

Method: We compiled prerequisite grades for 106 graduates in the last eight years of respiratory therapy classes and compared it to the students' first attempt at the CRT and WRRT exams. Data was analyzed using SPSS statistical software. Normalcy was tested using the Kolmogorov-Smirnov Test. If the data was Gaussian in distribution, an ANOVA analysis was performed and post hoc analysis completed with Tukey HSD and Scheffe Tests. If data was not Gaussian in distribution, a Kruskal-Wallis Test was used. A p value of 0.05 was used for all analysis. If data was found to be significant, a Pearson correlation was performed and an r value of 0.7 or greater was used as a strong correlation value.

Results: We rejected our null hypothesis on the basis that Human Physiology was found to have statistical differences in scores achieved on the CRT exam in all letter grades received. Human Physiology also showed similar results when compared to the WRRT exam. Other courses that showed statistical differences were Human Anatomy, Cardiopulmonary A&P, and Microbiology. There was no statistical difference between the grade a student received in Intermediate Algebra and the score they achieved on the CRT exam but there was a difference between some grades and the WRRT exam. Grades received in Political Science did show some differences on the CRT exam but not on the WRRT exam. Other courses such as English Composition and Human Communication showed no statistical differences on either exam.

Conclusion: Generally, we found that students who earned higher grades in courses like anatomy and physiology subsequently achieved higher mean scores on the CRT/WRRT

exams; however, none of the courses in our study met the Pearson r value of 0.7 or greater that was set prior to data collection. Therefore, even though a few courses showed important relationships between grades and scores, there was not a strong enough correlation to predict success on the CRT/WRRT exams.

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