COURSE VALIDATION STUDY

Target Course: EMT 101
Prerequisite: Eligible for College Level Reading

The following is statistical data on the validation of the following course prerequisite: Eligibility for College Level Reading as a prerequisite for EMT 101.

EMT101_SUCCESS_IND * CLR Eligibility Crosstabulation

Count

		CLR Eligibility		
		N	Y	Total
EMT101_SUCCESS_IND	N	646	17	663
	Y	573	8	581
Total		1219	25	1244

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.216(b)	1	.137		
Continuity Correction(a)	1.654	1	.198		
Likelihood Ratio	2.279	1	.131		
Fisher's Exact Test				.159	.098
N of Valid Cases	1244				

a Computed only for a 2x2 table
b 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.68.

Chi-Square Measurement:

The *Chi-Square* measurement tests the hypothesis (*null hypothesis*) that there is *"no difference"* between the two groups. In order to reject this hypothesis and conclude that there is a statistically significant difference between the two groups Chi-Square must be greater than **3.84**. To ensure the validity of the Chi-Square test there is a minimum frequency threshold for a 2x2 table that should be obeyed. If any of the observed frequencies in the cross-tabulation table are **5 or below** than the validity of the Chi-Square measurement is questionable.

CHI-SQUARE = .137 FAIL TO REJECT NULL HYPOTHESIS

Fisher's Exact Measurement:

The *Fisher's Exact* measurement can be used as an alternative to the Chi-Square measurement where a large sample is difficult to obtain. In order to reject the null hypothesis and conclude that there is a statistically significant difference between the two groups Fisher's Exact must have a P-value **less than** the standard **.05**.

FISHER'S EXACT = .159 FAIL TO REJECT NULL HYPOTHESIS

Ratio:
The ratio to be measured is the ratio of ***right response:wrong response***.
A *right response* would be nonsuccess in the prerequisite course combined with nonsuccess in the target course or success in the prerequisite course combined with success in the target course. A *wrong response* would be nonsuccess in the prerequisite course combined with success in the target course or success in the prerequisite course combined with nonsuccess in the target course. For the *study ratio* to meet the *ratio criteria* it must be greater than or equal to **2:1**.

RATIO: 646+8:573+17 = 654:590 FAILED CRITERIA

Percent Increase:
Percent increase is measured by subtracting the percent success before adjusting for the prerequisite from the percent success after adjusting for the prerequisite. For the *study percent increase* to meet the *percent increase criteria* there must be a difference greater than or equal to **10%** in the positive direction.

PERCENT INCREASE: FAILED CRITERIA
581/1244 = 47% Before Prerequisite
8/25 = 32% After Prerequisite

Summary

When a course has a prerequisite of eligibility for a specified level of aptitude, we have to take into consideration not only if a student has become eligible by taking the required course but also if the student has become eligible by being placed at that level of aptitude through assessment testing. Due to the recent change in assessment test formats it is difficult to get test scores prior to 2006. In this study only the most recent test scores were used to determine eligibility. As a result it is possible that there were a few students who could have been included in the "eligible" group but were not because they took the assessment test before 2006. A total sample of 100, with at least 20 students in the non-successful group for the target course is recommended. In this case the minimum requirement for a valid Chi-square test was achieved. Both the chi-square test and the Fishers Exact test fail to reject the null hypothesis that eligibility for College Level Reading (CLR) is independent of success in EMT101, showing that there is no statistical evidence that eligibility for CLR is necessary for success in EMT101. CLR also fails both the Ratio and Percent Increase criteria. At this time there is no statistical evidence that eligibility for CLR is suitable as a prerequisite for EMT101.