

Math 402 Success Rate Comparison (Fall 09)

Introduction

In order to better understand the effect of Math 400 participation on Math 402 success, a series of examinations were conducted. The sample was composed of students who took Math 402 from Fall 04 through Spring 09 ($n=1,008$).

Below are the findings from these examinations:

Table 1: Math 402 success rate comparison between students who took the pre-cursor course (Math 400) and those who did not

| | Success | |
|------------------|---------|-------|
| | Count | % |
| Took Math 400 | 110 | 60.1% |
| Did not take 400 | 473 | 57.9% |

Table 2: Math 402 retention rate comparison between students who took the pre-cursor course (Math 400) and those who did not

| | Retained | |
|------------------|----------|-------|
| | Count | % |
| Took Math 400 | 151 | 82.5% |
| Did not take 400 | 643 | 78.7% |

Table 3: Math 402 grade distribution comparison between students who took the pre-cursor course (Math 400) and those who did not

| | Took Math 400 | | Did not take 400 | |
|----|---------------|-------|------------------|-------|
| | Count | % | Count | % |
| A- | 8 | 4.3% | 29 | 3.5% |
| A | 37 | 20.1% | 121 | 14.7% |
| B- | 9 | 4.9% | 30 | 3.6% |
| B | 20 | 10.9% | 76 | 9.2% |
| B+ | 9 | 4.9% | 24 | 2.9% |
| C | 24 | 13.0% | 152 | 18.4% |
| C+ | 3 | 1.6% | 41 | 5.0% |
| D | 15 | 8.2% | 57 | 6.9% |
| DR | 1 | .5% | 4 | .5% |
| F | 25 | 13.6% | 112 | 13.6% |
| IF | 1 | .5% | 1 | .1% |
| RD | | | 3 | .4% |
| W | 32 | 17.4% | 174 | 21.1% |

Table 4: Math 402 success rate by Math 400 success

| | Non-success | | Success | |
|----------------------|-------------|-------|---------|-------|
| | Count | % | Count | % |
| Math 400 Non-success | 22 | 78.6% | 6 | 21.4% |
| Math 400 Success | 51 | 32.9% | 104 | 67.1% |

Summary

Prior to an interpretation of the findings, several limitations of the current study must be acknowledged. When comparing the Math 402 success rates of those students who took Math 400 vs. those who did not, it must be recognized that the source of any differences may be in the inherent differences in these groups. For example, the students that were placed in Math 400 may have attended a school where they did not address topics in the placement test which thus got them placed into Math 400. So, the differences in Math 402 success rates may be due more to the school these students attended rather than anything done in Math 400. Also, the differences that were found, suggesting increased performance by those who took Math 400, may not be the result of the actual course. For example, students who took the precursor course may have benefited from just being on campus at least an additional term, regardless of the content of the course.

Examining the findings, students who took Math 400 were slightly more likely to succeed in Math 402 as compared to those who did not take the course (2.2%). These students were also more likely to be retained, a difference of 3.8% (See Table 2). A closer examination at the grade distribution suggests that the Math 400 students were more likely to receive a B or higher (45.1%) as compared to those who did not take Math 400 (33.9%), a difference of 11.2% (See Table 3). In sum, it appears from these examinations that students who took the Math 400 course are performing at higher levels than students who did not take this course. Clearly, a variety of factors may be contributing to these differences; nevertheless, it seems that there is a notable disparity in performance.