

# Data Analysis of the Effectiveness of the L-Sections of MA 112

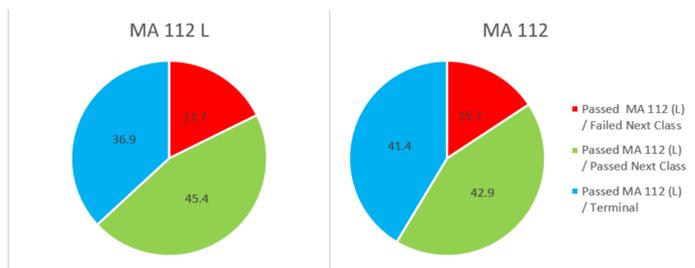
Mil'Yonta Williams and Terri Johnson  
UAH Department of Mathematical Sciences

## Overview/Introduction

Data Analysis is the process of applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. An essential component of ensuring data integrity is the accurate and appropriate analysis of research findings.

This project addressed these questions:

- 1) L-sections are intended for students with lower Math ACT scores and are designed to compensate for that. Do they? In technical terms, is there a statistically significant difference in the performance of MA 112L students and those from "regular" MA 112 sections in MA 113 or MA 120 (the next courses in the mathematics sequence)? (See Figure 1)
- 2) Are there other factors that affect student outcomes in these courses?



**Figure 1:** One would expect students with lesser ACT's to be weaker on average, yet there is no statistically significant difference in future outcomes for students who pass MA 112L and MA 112. Thus, MA 112L 'levels the playing field'.

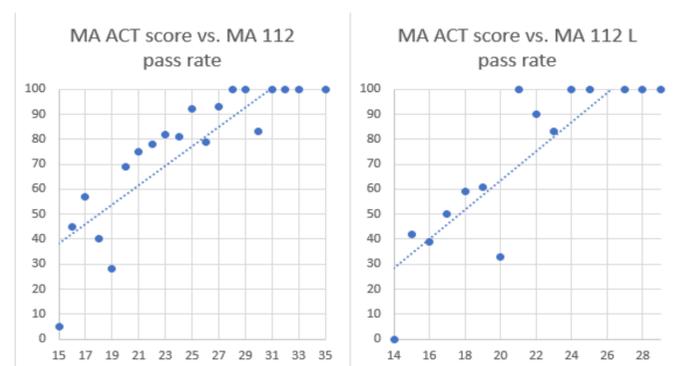
## Future Impact of Research

This research shows:

- 1) Students with low Math ACT scores benefit from additional resources offered in MA 112L. These students should be offered more intensive mentoring and advising to guarantee their success in their required math classes.
- 2) Advising plays a critical role in ensuring that students take the Charger Foundation math class that best fits their level of preparation and field of study. The majority of students taking MA 112 or MA 112L are not required to take the course.
- 3) Conjecture. Offering more sections of MA 110 and fewer sections of MA 112 may provide more successful choices for students. Same applies to new course offerings such as a 100 level Statistics course.

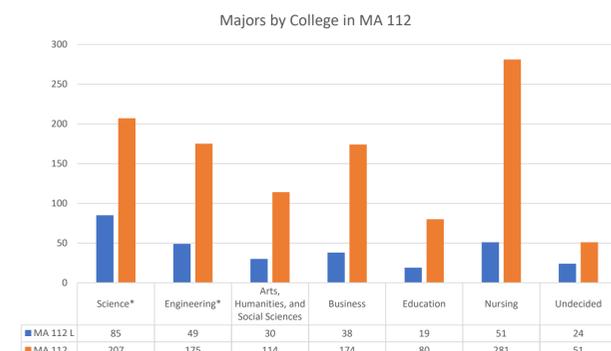
## Key Findings/Results

- 1) MA 112L is effective at bringing students with low Math ACT scores up to the same level as their peers in MA 112
- 2) Math ACT Scores are highly predictive for success rates in MA 112 and MA 112L.

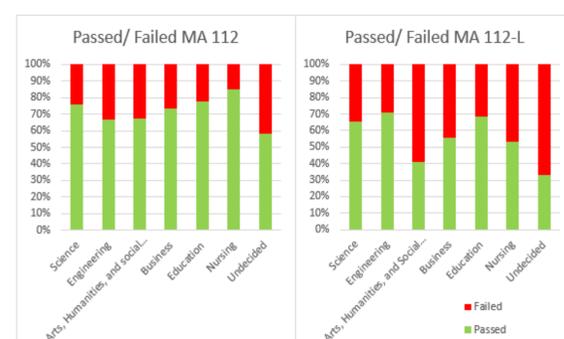


**Figure 3:** The correlation coefficient for MATH ACT score and MA 112 is  $\rho = .859$  and for MA 112 L the coefficient is  $\rho = .866$

- 3) The majority of students in MA 112 and MA 112 L are taking a course that was not designed for them.



**Figure 4:** 60.1% of students taking MA 112/ 112L are not required to take the course.  
\* Colleges that are required to take MA 112/ MA 112 L



**Figure 5:** The pass rate of students who are required to take MA 112/112L is 63.8%. The pass rate of students who are not required to take MA 112/112L is 64.0%.

## Acknowledgements

I would like to Acknowledge Alabama Louis Stokes Minority Program for funding me and this research. I would also like to acknowledge The University of Alabama in Huntsville as well and the Mathematical Sciences department for providing the data and funding this research.