THE EFFECTS OF REMEDIAL MATHEMATICS IN A CORE BUSINESS COURSE – A HOPE FOR FUTURE SUCCESS

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Overview

- What?
- Why?
- Literature Review
- Current Research/Outcomes
- Intervention / Math Assessment (Methodology)
- Limitations Future Research
- Review
What?

- 90 Question Math Assessment
- Five (5) Areas of Focus
  - 1) Word Problems
  - 2) Order of Operations
  - 3) Linear Equations
  - 4) Geometry
  - 5) Basic Math
- Pre / Post Assessment
- Four (4) sections of students (100 students in total) – 3 cohorts
- Longitudal Study
Can I be excused for the rest of my life?
Why?

- Students in Statistics were not prepared to learn statistical methods: instructors spent most of time re-teaching algebra
- Students struggling in numerous math-oriented courses (statistics, finance, accounting, economics)
- Peregrine testing showing lower scoring in math related areas
- Students haven’t had a math class in over 4 years
Literature Review

The idea of assessments in higher education is not a new concept. We can go back just a few years and read an article published in *Higher Education* by Rosario Hernandez (2012) that discusses the relationship between assessment and student learning; which is exactly what we are looking to find out. On the contrary, a publication from 2008 from IDEAS working paper series from RePEc out of St. Louis, Missouri, by Johan Lagerlof titled, "The Effects of Remedial Mathematics on the Learning of Economics: Evidence from a Natural Experiment" suggests that when testing on a subset of students shows exam results, where they only made it available to a controlled group to control for background variables, that their findings suggest relatively little evidence for a positive effect of remedial mathematics on student performance. However, we are unable to find any additional publications for this experiment and/or subset to further validate these findings at this time (March 2017).
Intervention – Math Assessment

- Back to basics
  - 5 areas
    - Word Problems
    - Order of Operations
    - Linear Equations
    - Geometry
    - Basic Math

- Dust off the cobwebs / remember what they learned
Current Research / Outcomes

Pre-Assessment 3 days of Instruction Post-Assessment

Avg. Cohort #1 Score
Order of Operations (PEMDAS Video)
Avg. Cohort #1 Score

Avg. Cohort #2 Score
Linear Equations
Slope-intercept
“y=mx+b”
Avg. Cohort #2 Score
Order of Operations

■ Ms Anderson's Rap
Please Excuse My Dear Aunt Sally (PEMDAS)
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Chart 2 – Cohort #2

Bus 161 - Assessment Co-hort #2
Chart 3 – Pre/Post Comparison

BUS 161 - Focus Areas - Cohort #1

Basic Math | Word Problems | Order of Operations | Linear Equations | Geometry
--- | --- | --- | --- | ---
Pre | Post | Pre | Post | Pre | Post
Chart 4 – Pre/Post Comparison

BUS 161 - Focus Areas - Cohort #2

- Basic Math
- Word Problems
- Order of Operations
- Linear Equations
- Geometry

Pre vs. Post
Limitations / Future Research

- Limitations
  - Literature Review
  - Analytical Outcomes
  - Early Stages

- Future Research
  - Longitudinal Study
  - Department of Public Instruction (DPI)
  - Links back to school districts
  - Outcomes for Accounting, Economics, Finance and Statistics
Review

■ What?
■ Why?
■ Literature Review
■ Current Research/Outcomes
■ Intervention / Math Assessment (Methodology)
■ Limitations Future Research
Questions???
References