Mitigating the Misery
Using an Application and Reflection Sequence to Reduce Student Anxiety in a Graduate-Level Applied Statistics Course

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Introduction

- Students
- Department
- Class
Simplified Framework

• Triune Brain Theory (MacLean, 1978)
  – Reptilian Complex >> Old Mammalian >> New Mammalian (Neocortex)

• Cognitive Downshifting (Hart, 1983)
  – Anxiety UP = Level of Cognition DOWN
Overview of the Study
Objective

• Examine the efficacy of one way to mitigate student anxiety and increase student learning in an applied graduate statistics course at a regional university.
Methods

• “Stats Time”
  – Every week
  – 30 minutes outside of class
  – Apply statistics from the most recent lesson in a real-world setting
  – First 10 minutes of a 3 hour class

• End of course instrument concerning student anxiety toward the course, knowledge gain, and perception of the activity

• N = 17
Results - Likert Items

“Stats time” helped me...

- to be less anxious about this course in general.
- to be less anxious about specific concepts covered in the course.
- learn statistics in general.
- learn specific concepts in the course.

“Stats time”...

- should be used in other courses I take.
- will be used in courses I teach in the future.
Statistical Results

• Effort on “Stats time” (1 to 100)
  – $M = 58.2$

• Grades aside, how well do you feel you learned the material covered in class? (1 to 100)
  – $M = 82.9$

• At the start of the semester, how anxious or nervous were you about taking this class?
  – $M = 73.1$
Results - Correlations

- [“Stats Time” Effort] x [Learning, Grades Aside]
  - $r = .68$
  - $p = 0.002566$

- [“Stats Time” Effort] x [Anxiety]
  - $r = 0.25$
  - $p = 0.333986$
Students’ Thoughts on “Stats Time”

• “At first I thought this activity was pointless, but the more I did it the more I started to see that the information was sticking.”

• “The activity made you make statistics a part of your week and gave you a better understanding of statistics as a whole.”

• “I think that this activity was a great example for students to honestly apply what they have learned throughout the semesters.”
Conclusions & Recommendations

• Admitting you have a problem is the first step.

• Increased learning
• Decreased anxiety?
  – Separate constructs?
• Instrument
• Other high anxiety courses in agriculture?
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