Studying the Relationship Between Developmental Math Student Attitudes and Academic Achievement
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Abstract
- The purpose of this study was to examine the relationship between students’ levels of confidence and anxiety and academic achievement in the course.
- The significance of this study is to better understand this relationship in order to create a more effective learning environment.

Research Question
- What is the relationship between students’ attitude and confidence and academic achievement?

Null Hypothesis
- There is no relationship between students’ attitude and confidence and academic achievement.

Background
- The Seven Principles of Good Practice in Undergraduate Education focuses on encouraging academic achievement at an undergraduate level.
- Encourages contacts between students and faculty.
- Develops reciprocity and cooperation among students.
- Uses active learning techniques.
- Gives prompt feedback.
- Emphasizes time on task.
- Communicates high expectations.
- Respects divers talents and ways of learning.
- The current survey touches on these seven principles broadly.
- We have changed the survey to incorporate these principles to more specifically address the components of the course. This will allow us to have a better understanding of the relationship of students’ self-efficacy and components of the course design.

Definition
- Self-efficacy “Perceived self-efficacy is a judgment of one’s capability to accomplish a certain level of performance” (Bandura, 1977, p. 391).

Delimitations
- Check-up survey 3 was not conducted each semester.
- Spring 2016 did not have exams 5 and 6.

Existing Survey Instrument Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Thinking about this class, how would you describe your current anxiety level?</td>
</tr>
<tr>
<td>2.</td>
<td>Very low</td>
</tr>
<tr>
<td>3.</td>
<td>Low</td>
</tr>
<tr>
<td>4.</td>
<td>Average</td>
</tr>
<tr>
<td>5.</td>
<td>High</td>
</tr>
</tbody>
</table>

Findings

<table>
<thead>
<tr>
<th>Term</th>
<th>Anxiety W</th>
<th>Confidence 1</th>
<th>Confidence 2</th>
<th>Confidence 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2010</td>
<td>0.218</td>
<td>0.170</td>
<td>0.229</td>
<td>0.070</td>
</tr>
<tr>
<td>Spring 2011</td>
<td>0.307</td>
<td>0.266</td>
<td>0.369</td>
<td>0.007</td>
</tr>
</tbody>
</table>

Conclusion
- We expect that continuing this research will result in a clarification of this relationship.
- New research question: What is the relationship between students’ self-efficacy for institutional modality and academic achievement?

New Survey Questions
- I am more confident in my ability to succeed in math when:
- When I attend CARE Center hours:
- When I receive help from the CARE Center Tutors:
- I complete the workbook before/while doing the homework:
- When I view the videos for each lesson:
- Using the S-Point Likert Scale

Statistical Analyses
- We thank the Office of Research and Sponsored Programs for supporting this research, and Learning & Technology Services for printing this poster.

References

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- Graphs were made by using Excel
- Correlation tables were made by using SPSS