STUDENT ENGAGEMENT SURVEY RESEARCH QUESTION:
Did students who increased their frequency of interdisciplinary engagement from spring 2009 to spring 2010 improve their academic performance? And did those decreasing their frequency experience lower performance?

Here, I will look only at those students who started at USC in fall 2008. It would be expected that new or relatively new students would be more likely to change their behaviors than someone in their second or third year and that this change would have more of an impact.

In this initial analysis, interdisciplinary engagement will be measured by one item; this item was asked in both 2009 and 2010, with different answer choices

How frequently have you brought up ideas or concepts from a different course during class discussions?

In 2009, there were three choices: Never, Occasionally, Frequently

In 2010, there were five choices: Never, Not often, Occasionally, Somewhat often, Very often

502 students whose first term was fall 2008 answered this question in both years
The table below lists different response patterns and GPAs for each pattern (discussion on next page)

<table>
<thead>
<tr>
<th>Response pattern (2009 -&gt; 2010)</th>
<th>Number of students</th>
<th>08-09 GPA</th>
<th>09-10 GPA</th>
<th>Differential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased interdisciplinary engagement</td>
<td>NEVER -&gt; OCCASIONALLY and SOMETHAT OFTEN and VERY OFTEN</td>
<td>42</td>
<td>3.33</td>
<td>3.36</td>
</tr>
<tr>
<td></td>
<td>OCCASIONALLY - &gt; SOMETHAT OFTEN and VERY OFTEN</td>
<td>107</td>
<td>3.37</td>
<td>3.52</td>
</tr>
<tr>
<td></td>
<td>FREQUENTLY - &gt; VERY OFTEN</td>
<td>40</td>
<td>3.38</td>
<td>3.57</td>
</tr>
<tr>
<td>Decreased interdisciplinary engagement</td>
<td>OCCASIONALLY -&gt; NOT OFTEN and NEVER</td>
<td>59</td>
<td>3.32</td>
<td>3.30</td>
</tr>
<tr>
<td></td>
<td>FREQUENTLY -&gt; OCCASIONALLY, NOT OFTEN, NEVER</td>
<td>31</td>
<td>3.39</td>
<td>3.31</td>
</tr>
<tr>
<td>All &quot;first term = fall 2008&quot; students completing both surveys</td>
<td>502</td>
<td>3.38</td>
<td>3.44</td>
<td>0.06</td>
</tr>
</tbody>
</table>
There were three groups of students (189 in total) who could be considered to have INCREASED this behavior:

1. 42 students who never exhibited the behavior in 2009 and at least occasionally exhibited it in 2010
2. 107 students who occasionally exhibited the behavior in 2009 and often exhibited it in 2010
3. 40 students who frequently exhibited the behavior in 2009 and very often exhibited it in 2010
   (because of the way the answer choices were constructed, the third group above could be considered to have maintained OR increased their behavior)

Each of these three groups had a higher mean cumulative GPA in 2009-2010 than in 2008-2009.

It should be noted that, as a whole, students tend to improve their performance over time.
The second and third groups above - those who used interdisciplinary engagement both years but increased its frequency improved to a greater degree than all students in this group (first term = 2008)

There were two groups of students (90 in total) who could be considered to have DECREASED this behavior:

1. 59 students who occasionally exhibited the behavior in 2009 and then chose "never" or "not often" in 2010
2. 31 students who frequently exhibited the behavior in 2009 and then chose "occasionally", "not often" or "never" in 2010

These two groups had a lower mean cumulative GPA in 2009-2010 than in 2008-2009

Answer to both research questions: Yes.

Students who occasionally or frequently exhibited the behavior in 2009, increasing the behavior was associated with higher GPA and decreasing the behavior was associated with lower GPA.

Students who never exhibited the behavior in 2009 and increased the behavior in 2010 did improve, but not to the same degree as others.

Chi-square analysis of the following two variables was significant (p<.01)
   Engagement: 3 levels - Increased, Maintained, and Decreased
   GPA: 3 levels - Increased, Maintained, and Decreased