Student Engagement in the Active Learning Classroom

Mariya Gyendina & Lindsay Matts-Benson

What did we do?
A three-semester mixed methods study comparing the interactional patterns of an introductory workshop taught in “traditional” and active learning classrooms, using observations and student satisfaction surveys as primary measures.

Observations
Active Learning Classroom - 12 observations, 5 50 min sessions, 7 megasessions
Traditional - 9 observations, all 50-min sessions
Recorded classroom type, session type

Coded:
LIS - library instructor student interaction, primarily one-on-one
SS - student student interaction
IND - individual work time
E - everyone interacting, large group conversation, or multiple instructors, PRC circulating and chatting with the students

MG did the initial coding. LMB reviewed the codes. All differences were discussed until we agreed on a code.

Results
Types of engagement in traditional and active learning classrooms (in minutes)

<table>
<thead>
<tr>
<th>Category</th>
<th>Average in traditional classroom</th>
<th>Average in active learning classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library instructor-student interaction</td>
<td>3.3</td>
<td>7.58</td>
</tr>
<tr>
<td>Students working together</td>
<td>8.55</td>
<td>11.16</td>
</tr>
<tr>
<td>Individual work time</td>
<td>7.6</td>
<td>18.5</td>
</tr>
<tr>
<td>Whole group</td>
<td>14.3</td>
<td>22.3</td>
</tr>
<tr>
<td>Total engagement</td>
<td>33.8</td>
<td>59.58</td>
</tr>
</tbody>
</table>

After the initial analysis, we created ANOVA models to see if the differences were statistically significant.

We used Cohen's f and eta sq to estimate effect sizes.

ANOVA results

<table>
<thead>
<tr>
<th>Category</th>
<th>p-value</th>
<th>Cohen's f</th>
<th>Eta sq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual work time</td>
<td>0.002</td>
<td>0.817*</td>
<td>0.4</td>
</tr>
<tr>
<td>Total engagement</td>
<td>0.008</td>
<td>0.678*</td>
<td>0.31</td>
</tr>
</tbody>
</table>

*high effect size

Findings
Through 30 class observations, we find that using the same curriculum in different spaces leads to some differences in engagement patterns, specifically, the amount of time students spend working individually and the total amount of "engaged" time.

Limitations:
More minutes spent in ALC
Interrupted data collection

Future directions:
Completely new curriculum
Other types of classes (eventually)