**Active Enough? Assessing the Impact of Screens in Active-Learning Classes**

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**Background**

Active = Good: Substantial evidence suggests active-learning, such as classroom response systems (CRS: clickers; Poll Ev.).

Screen use had no impact in general on student performance.

**But**

Screen use did have a negative impact on scores for students in some groups.

**Our Study**

Three iterations of PHIL 120: Introduction to Logic (n=538). A large lecture course using CRS, think-pair-share, and random call.

<table>
<thead>
<tr>
<th>Year</th>
<th>Students used screens?</th>
<th>No-screen enforcement level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No – clickers</td>
<td>Strong†</td>
</tr>
<tr>
<td>2</td>
<td>Yes – Poll Ev.</td>
<td>Moderate‡</td>
</tr>
<tr>
<td>3</td>
<td>Yes – Poll Ev.</td>
<td>None</td>
</tr>
</tbody>
</table>

† TAs enforced a strict no-screens policy in class (except for select students with permission).
‡ TAs enforced a policy of no screens for off-topic uses.

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**Results**

Distributions of all students’ final test scores for each year of the study. ($F = 1.433, p = 0.255$)

Overall there is no effect on final test scores. This is also true for different sections of the test.

Effect of student demographic variables on final test score by year:

However, some demographics do substantially worse with no enforcement of screen use relative to strong enforcement, cf. Educational Opportunity Program (EOP) students.

**Targeted Action**: Our study suggests working with Advisors of EOP students, in order to teach students screen-use skills.

The reference category for each regression equation is the median test score for all students in each variable.