The Effects of Immediate Feedback Devices in Chemistry Classrooms

Research Questions

1) What is the effect of using immediate feedback devices (IFD) on student motivation?

2) What is the effect of using immediate feedback devices on student achievement?
Question 1 Data Sources

- Test Scores
- Lab Report Scores
- Homework Scores

Test Scores

<table>
<thead>
<tr>
<th>Chapter Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch 13 Test</td>
<td>72</td>
</tr>
<tr>
<td>Ch 14 Test</td>
<td>66</td>
</tr>
<tr>
<td>Ch 15 Test</td>
<td>70</td>
</tr>
<tr>
<td>Ch 16 Test</td>
<td>80</td>
</tr>
</tbody>
</table>

Fall 2006 (w/o IFD)  Fall 2007 (with IFD)
Homework Scores

<table>
<thead>
<tr>
<th>Semester</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2006 (w/o IFD)</td>
<td>82.44</td>
</tr>
<tr>
<td>Fall 2007 (with IFD)</td>
<td>81.61</td>
</tr>
</tbody>
</table>

Question 2 Data Sources

- Survey Results
- Field Notes
Survey Results

- Immediate Feedback Devices as a useful learning tool – average rating of 3.83 out of 4
- IFD helping to increase understanding of chemistry – average rating of 3.53 out of 4
- Preference of using IFDs as opposed to other reviewing tools – average rating 3.67 out of 4
- Overall IFD rating – average 8.71 out of 10

Preferred Review Method (n = 55)

- IFD: 83%
- Review Sheet: 11%
- Both IFD and Review Sheet: 4%
- Other: 2%
Field Notes

- Students expressed initial frustration with learning curve
- “This is fun. Do we really get to use these all the time?”
- “Can we use these more often?”
- “I never get these questions right. Why is this so hard?”
- “It’s not me, it’s the clicker.”