Use of Student Response Devices to Enhance Learning and Teaching

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Plants, Pathogens, and People (PLPA 200)

- uses plant disease epidemics to introduce issues in agriculture
- fulfills general education requirements: natural science, advanced composition
- capped at 75 students
First Day Survey

- sophomores, juniors, seniors
- from 6 to 8 different UIUC colleges
- some have lots of college biology; some have one course in high school
- most are taking the class to fulfill General Education requirements
What was my problem?

Low level of participation in class.
Methods

- iclickers were used throughout the semester:
  - to gather information about students’ backgrounds and levels of knowledge
  - to share students’ knowledge
  - to poll students’ opinions
  - to test comprehension of course material
  - to review on-line quizzes
Methods, cont.

- iclicker questions with two to five answers were posed at various times during 80-minute classes. Students could be asked to discuss and re-answer a question.

- Student surveys were conducted early (second or third week of class) and late (last week of class) in each semester. Each survey consisted of five short-answer questions and a comment space.
fungicides are used in the western U.S. than in the west because:

A: there are more species of fungi
B: more crops are grown
C: the weather is wetter
D: the growing season is longer
E: all of the above
## Participants

<table>
<thead>
<tr>
<th>Semester</th>
<th>Participants</th>
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<tbody>
<tr>
<td>Fall 2004</td>
<td></td>
</tr>
<tr>
<td>Early Survey</td>
<td>68</td>
</tr>
<tr>
<td>Late Survey</td>
<td>60</td>
</tr>
<tr>
<td>Spring 2005</td>
<td></td>
</tr>
<tr>
<td>Early Survey</td>
<td>59</td>
</tr>
<tr>
<td>Late Survey</td>
<td>58</td>
</tr>
</tbody>
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Results: Early Survey

- >90% of the students enjoyed iclickers.
- >85% believed the devices enhanced their learning.
- ~20% of the students thought iclickers could be used more often.
- More students opposed the use of iclickers to monitor attendance or to assign credit than favored either use.
Results: Late Survey

- Similar results were reported for enjoyment and interest.
- >90% thought that the frequency of iclicker use had improved.
- >75% reported that they used their iclickers “often”.
- Regardless of whether or not they used their own device, 95% reported that iclickers increased their participation in the class.
Conclusions

- Students enjoyed using and perceived improved learning from iclickers.
- iclickers increased student participation and facilitated peer teaching in a relatively large class.
- They also helped to make student learning more visible to the instructors, and thus enabled us to improve our teaching.
Made public through:

- peer-reviewed presentations at
  - professional society meeting
  - teaching and learning meetings
- publication (in preparation)