



NAVAL  
POSTGRADUATE  
SCHOOL



# Two Toys I've Been Testing

Associate Professor Ron Fricker  
Operations Research Department  
Naval Postgraduate School

# Using PowerPoint in the Classroom



- My lectures are predominantly PowerPoint-based
  - Both for DL and resident classes
- Pros:
  - I don't have to write on board
    - I can concentrate on communicating with students
  - Notes are written out for students
    - They can concentrate on what I'm saying vice note taking
- Cons:
  - “Death by PowerPoint”
    - Move through material too fast
    - Little to no student engagement

# (One) Solution: Tablet Computer

- With tablets, can write on PowerPoint slides
- My new lecture style: Do PowerPoint slides but leave space for in-class problems
- Example:

Example

- The AC breakdown voltage of a particular circuit is measured in  $n=48$  experiments
  - Based on the data, we calculate  $\bar{x} = 5.426$  and  $s = 5.23$
- Calculate a 95% confidence interval for the mean  $\mu$

Revision: 12-08
32

Before

Example

- The AC breakdown voltage of a particular circuit is measured in  $n=48$  experiments
  - Based on the data, we calculate  $\bar{x} = 5.426$  and  $s = 5.23$
- Calculate a 95% confidence interval for the mean  $\mu$

$$\Pr\left(\bar{x} - 1.96 \frac{s}{\sqrt{n}} \leq \mu \leq \bar{x} + 1.96 \frac{s}{\sqrt{n}}\right) \approx 0.95$$

$$\equiv \Pr\left(5.426 - 1.96 \left(\frac{5.23}{\sqrt{48}}\right) \leq \mu \leq 5.426 + 1.96 \left(\frac{5.23}{\sqrt{48}}\right)\right) \approx 0.95$$

$$\equiv \Pr(3.946 \leq \mu \leq 6.9) = 0.95$$


OR 95% CI for  $\mu$  is (approx):  $(3.946, 6.9)$

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32

After

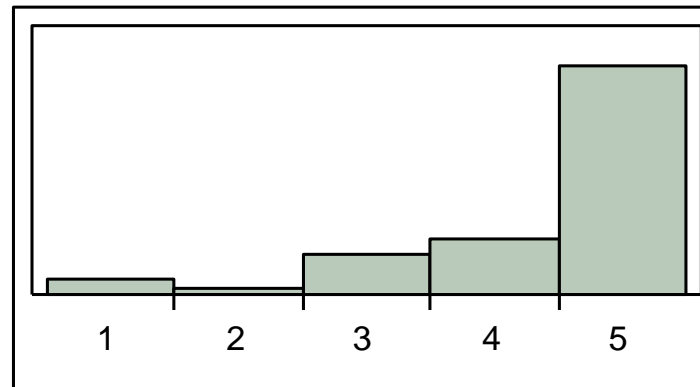
# Operationally



- Pass out copies of slides at beginning of chapter (about a week's worth)
  - Parts we will do in class have  icon
  - Roughly a 5:1 ratio or so, of completed slides to “fill-in” slides (which are usually problems)
- Work through lecture over the week
  - Students take notes as I fill in the slides
- At the end, I convert annotated slides to pdf and post for students

# What the Students Thought (1)

- “On a scale of 1 to 5, where 1 means ‘I’d prefer when you write on the blackboard’ and 5 means ‘I prefer when you write on the tablet’ please give your opinion on my use of the tablet PC in class for doing problems.”



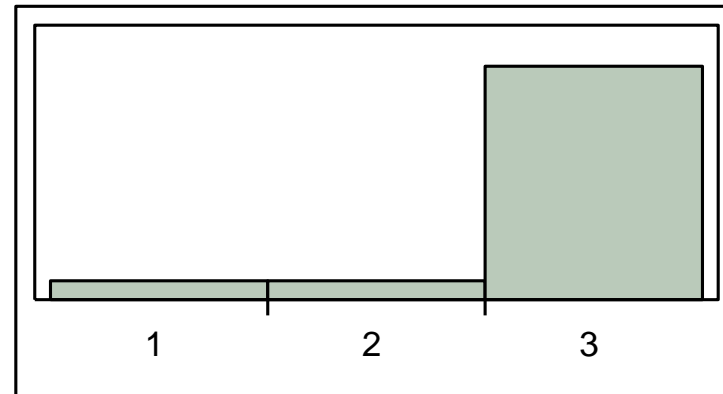
## Frequencies

Level	Count	Prob
1	2	0.04651
2	1	0.02326
3	5	0.11628
4	7	0.16279
5	28	0.65116



# What the Students Thought (2)

- “On a scale of 1 to 5, where 1 is ‘I'd prefer all in-class written board and tablet work,’ 3 is ‘It's about right,’ and 5 is ‘I'd prefer all completed PowerPoint slides,’ please rate the ratio of completed PowerPoint slides to in-class board and tablet written work in my lectures.”



## Frequencies

Level	Count	Prob
1	3	0.06977
2	3	0.06977
3	37	0.86047
Total	43	1.00000

# Sakai “Collaborative Learning Environment”



- ITACS testing potential replacement for Blackboard
  - NPS Blackboard license currently costs over \$250K/year
  - Many major universities moving to open source alternatives such as Sakai

**Log in to get started**

Username

Password

[Log In](#)

### Welcome to the Naval Postgraduate School Collaborative Learning & Research Portal

The Naval Postgraduate School Collaborative Learning Environment (CLE) is an interactive portal designed to support the learning and research activities of the Naval Postgraduate School and its strategic partners. It is built on the open source learning management system Sakai CLE. Sakai was and continues to be developed by a consortium of higher education institutions to better meet the academic and research needs of the higher education community.

NPS students, faculty, and staff can log in to the system using their NPS username and password on the left hand side of this page.

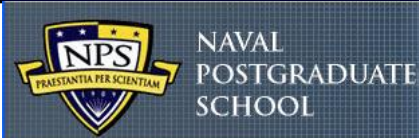
People from other institutions or commands please log in using your email address and the password supplied to you by your program or research sponsor.

Click [here](#) for CLE help and support.

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Portions of The rSmart Sakai CLE are copyrighted by other parties as described in the [acknowledgments](#) screen.  
Naval Postgraduate School CLE - 2.5.3.0 - Sakai 2.5.x rev 54272 - Server "nps1"



# First Beta Test in My OA3102 (Resident) Class Last Quarter



Quicklinks: [Classroom Sandbox](#) | [LMS Committee](#) | [Statistics](#) [Edit](#)

[My Workspace](#) | [My Sites](#) ▾

Hello, Ron !! [Logout](#)

## Home

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## Help

Ron Fricker  
rSmart Support

## Statistics

### Site Information Display

Options



### Welcome to Statistics (OA3102)!

*We will be using Sakai as our course site as a beta test for ITACS.*

**About the Course.** The primary job of statisticians is to look at data gathered from a sample and use it to draw inferences about the population from which the sample was drawn. This requires probability, so we start the course by picking up where you left off in OA3101: looking at joint probability distributions in the continuous case. In the rest of the course, we study *estimation* (trying to determine what the average, say, of a population might be, based on the sample average) and *inference* (trying to evaluate whether particular claims about the population are true, based on sample information).

**About the Site.** In this course, we will use Sakai in place of Blackboard for course announcements and for distributing various course documents. See the links at the upper left:

[Resources](#) contains folders with the solutions to homework assignments and exams (as they become available) as well as folders containing the data sets we will use in class and other materials. Be sure to browse through to see what's there.

[Tests & Quizzes](#) will be used for the on-line quizzes. More about this when we get closer to the first quiz at the end of the third module.

The [Gradebook](#) will contain all the grades you get in the class. Be sure to check it periodically to ensure your grades are entered correctly.

[Lecture & Lab Notes](#) contains all the notes for the class. I will pass out hard-copies of everything, but you may want to download and print-out your own copies, particularly if you want them in color or of a larger size.

### Recent Announcements

Options

There are currently no announcements at this location.

### Calendar

Options

May, 2009

< Today >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

### Recent Chat Messages

Options

### Messages & Forums Notifications

[Messages](#)

None





# What Did the Students Think?

<u>Question</u>	<u>Percent Agree or Strongly Agree</u>
• “The Sakai interface is easy to understand and navigate through.”	95%
• “The Sakai gradebook is easy to use.”	86%
• “The Sakai quiz interface is easy to use.”	95%
• “I found Sakai to be reliable, in the sense that it was always available when I wanted to log on.”	95%
• “I found Sakai to be responsive, in the sense that when I clicked on something the item loaded or refreshed quickly on my computer.”	95%



# What Did the Students Think?

<u>Question</u>	<u>Percent Agree or Strongly Agree</u>
• “Overall, I prefer using Sakai to Blackboard.”	60%
• “Based just on your experience using Sakai this quarter, would you recommend that NPS switch from Blackboard to Sakai?”	89%
• “Now, considering that NPS can save over \$250,000 by switching from Blackboard to Sakai, would you recommend NPS switch from Blackboard to Sakai?”	98% Yes

# Interested?



## Want to teach in Sakai next quarter?

The Educational Technologies group is seeking faculty volunteers to teach their summer classes in Sakai CLE. Sakai is an open-source alternative to Blackboard that was developed by Stanford, MIT, Michigan, Indiana, and Minnesota and is now in use at over 300 higher educational institutions in the US.

It is possible to migrate your existing course content, tests and quizzes, and multimedia from your Blackboard courses into Sakai. Our support team can migrate your existing courses, or you may choose to build a new course in Sakai. Those interested in volunteering can do so by emailing Sakai support team at [clehelp@nps.edu](mailto:clehelp@nps.edu). Please include the course number and title of the course you plan to teach in Sakai.

For those who want to learn more about Sakai, Educational Technologies will be hosting a series of two-hour training sessions on Sakai over the next month.

Wednesday, June 3, 1400-1600, KN-151

Friday June 5, 1000-1200, GL-318

Wednesday, June 10, 0900-1100, KN-151

Friday June 12, 1000-1200, GL-318

You can read more about Sakai on the intranet at <http://intranet.nps.edu/ITACS/CLE/index.html>