

Four Tensions from Changing with Technology: In Search of Balance

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Pedagogy vs. Practice

- Pedagogy

- TinkerPlots
- Fathom
- StatCrunch
- GeoGebra
- DataDesk
- CoreTools
- TI-83/84
- Others...

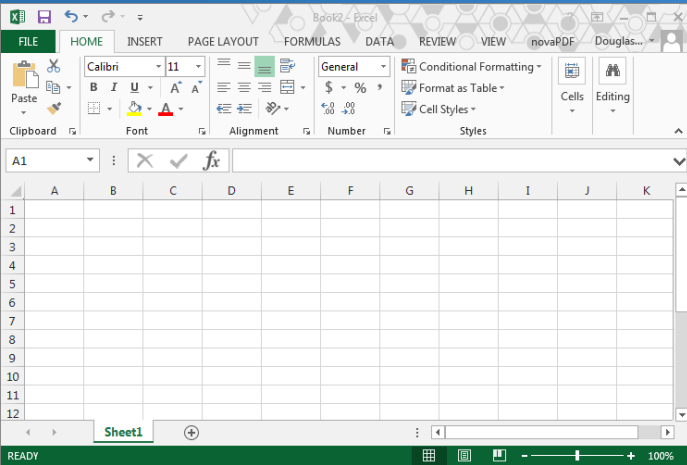
- Applets

- Rossman/
Chance
- Lock5
- RVLS
- Shiny
- Others...

- Practice

- R/S-PLUS/RStudio
- SAS
- JMP
- Minitab
- Stata
- SPSS
- STATISTICA
- SciPy
- Maple
- Matlab/GNU Octave
- Mathematica
- ESS (Emacs)
- Excel (just kidding)
- Many more general programs
- Even more specialized programs

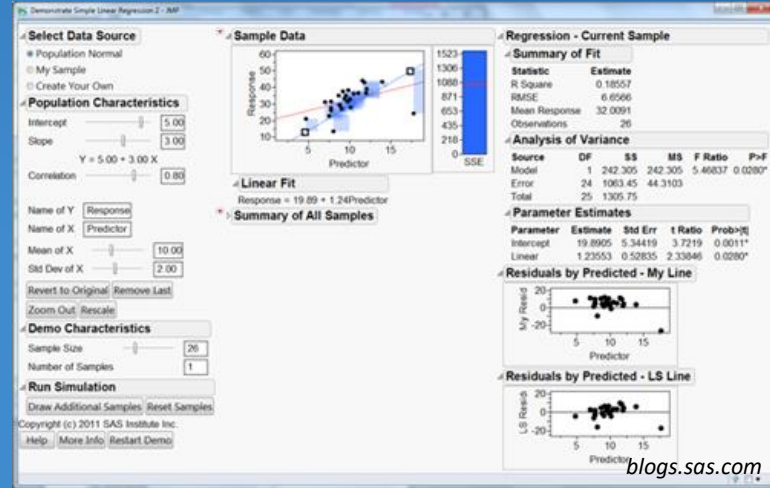
Comfort vs. Purpose



```

1-Var Stats
x̄ = 55.55555556
Mx = 500
Mx² = 80988
Sx = 81.55536633
σx = 76.89113677
↓ n = 9
    
```

epsstore.ti.com

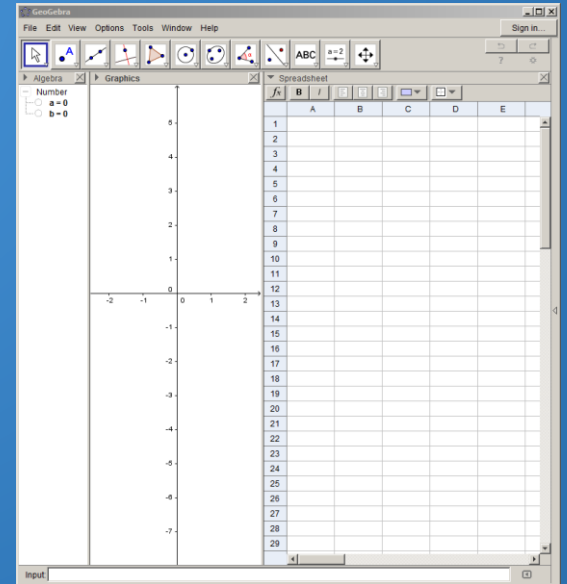


A screenshot of a web browser displaying the 'Rossman/Chance Applet Collection' page. The page title is 'Rossman/Chance Applet Collection'. Under the 'Reeses Pieces' section, there are controls for:

- Probability of orange: 0.5
- Number of candies: 25
- Number of samples: 1
- Buttons: Draw Samples, Total = 0, Hide candy machine, Summary Stats, Two-tailed (between:), Exact Binomial, Normal Approximation, As extreme as: Count, Show previous, Show sliders.

 A small graphic of a red and yellow candy machine is visible. The page footer includes a date 'Page last modified 04/02/2010 21:43:49' and a list of links for different versions of the applet.

A screenshot of an R console window. The title bar reads 'R (32-bit)'. The menu bar includes File, Edit, View, Misc, Packages, Windows, Help. The main area shows the R prompt '>' on a new line, indicating it is ready for input.



Old vs. New

- Lots of pros to using older software:
 - Stable, more resources to support it in teaching
- Also lots of cons:
 - May no longer work (Java in browsers), original design may not address current needs
- New software
 - Pros: more current, prettier, support
 - Cons: not as widely used, fewer resources, will it stick around?

Ideal World vs. Local Needs

- How important is the software used in a research article to student outcomes?
- Would similar software also work?
- How faithful to the software implementation does one need to be?
- Logistical concerns
 - Cost issues
 - Do free/open-source alternatives work as well?
 - R is fantastic!
 - PSPP doesn't have many features...

What do you think is the most important aspect of changing with technology in the learning/teaching environment?

- Balance!
- Pedagogy vs. Practice
- Comfort vs. Purpose
- Old vs. New
- Ideal World vs. Local Needs
- Thanks!