

# Reducing Testing Costs Using PowerPoint

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# The Problem

- 1400 introductory psychology students
- 35,000 sheets of paper
  - 5 exams per student
  - 5 pages per test
- \$1,750 a year in printing costs
- Budget
  - 50% increase in students over 20 years
  - 0% increase in department operating budget
- Storage, environmental, & security concerns



# Potential Solutions

- Same exam across all sections and instructors
  - Content not the same – academic freedom concerns
  - Students write on exams
  - Concerns about cheating
- Reducing size of print to reduce number of pages
  - Many complaints
  - Test banks are not efficient users of space
- Administer tests over Internet or PC
  - Concerns about cheating
  - Not enough computer lab space for PC administration
- PowerPoint administration

# Literature Search

- Nothing on PowerPoint administration
- Mead & Drasgow (1993) meta analysis
  - Paper administration of cognitive ability tests resulted in higher scores for speed tests
  - No difference for power tests
- Finger & Ones (1999)
  - No difference for MMPI scores
- Dwight & Feigelson (2000)
  - Little difference for social desirability



# Questions to Answer

- How much time per question?
  - Long enough to read, think, and respond
  - Short enough not to be bored
  - Class times of 50 and 75 minutes
  - Typical test length of 50 questions
- Should we show the question more than once?
  - How much time for each viewing?
  - What if people are done after the first viewing?
- Should we keep the item stems short?
- Should we use 3 or 4 alternatives?

# PowerPoint Test Administration

- 1 question per slide
- 45 second initial viewing
- 15 second additional viewing
- Initially we let students leave when done, but quickly stopped this option

15. Which of the following psychologists is most associated with operant conditioning?

- a. Skinner
- b. Freud
- c. Rogers
- d. Wundt

# Implementation

- **Fall, 1999**
  - 90 students took alternate-form PowerPoint exam following actual exam
  - No differences in test scores
- **Fall, 2000**
  - Instructors asked about exam preference
    - 6 sections had PowerPoint administration
    - 6 sections had paper administration
  - Scores on second test monitored
  - Sections were compared on common 20 questions
- **Fall, 2001**
  - All sections use PowerPoint administration



# Participants in Fall, 2001 Study

- 808 introductory psychology students
- 12 sections
  - 6 PowerPoint administration
  - 6 paper administration
- 67% were female
- Average age 18.5 (17 – 42)



# Score Equivalence

	PowerPoint Administration	Paper Administration
Mean	76.0	75.9
SD	13.6	14.0
N	401	407

$F(1, 806) = .006, d = .007$

# Are fast test-takers different from slow test takers?

	Fast	Average	Slow
PowerPoint			
Mean	80.00	74.55	77.75
N	85	182	73
Paper			
Mean	83.05	75.05	74.10
N	62	220	76

# Test Taking Speed and Satisfaction

Satisfaction higher for paper

No interaction

	Fast	Average	Slow
PowerPoint			
Mean	3.14	3.11	3.29
N	85	182	73
Paper			
Mean	1.74	1.90	1.99
N	62	220	76

# Student Reaction

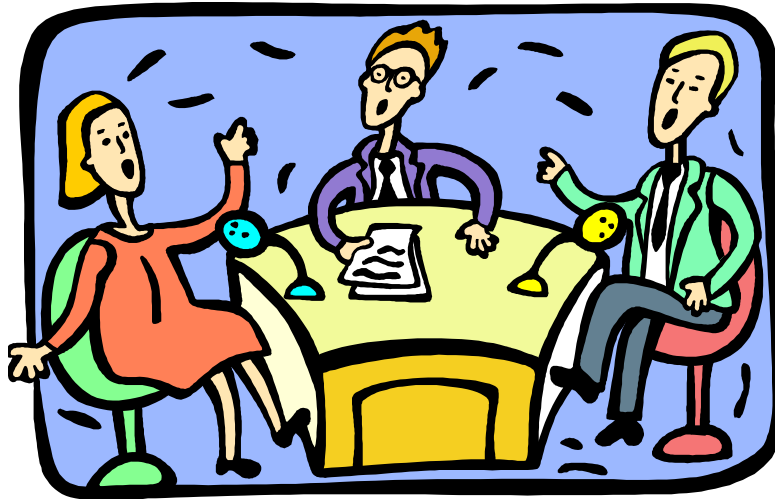
## They Hate it!!!

- They feel rushed
- They want to get out early
- They want to write on the test



# Our Response

- Explain our reasoning
- Show students our data
- Provide practice tests after each chapter
- Adjust test times as needed
- Allow ADA accommodations



## References

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# Questions about this Presentation?

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