Slide 1

- Bring ruler (or any straight edge object), calculator, also good if bring:
    - Blue or green pen
      And
    - Red or orange pen

Slide 2

- Ogden Lindsley
    - Student of Skinner
    - Behavior therapy
    - 1965: wanted to bring rate and cumulative recorder out of lab in class

Slide 3

- Dissemination of Precision Teaching

Slide 4

- Basic tenets Lindsley took from Skinner

Slides 5-7

- Skinner's most important contributions
- How time is inherent in behavior analysis
- Cumulative recorder

Slide 8

- How to show response rate over time in classroom

Slide 9

- Assessment system
- Decision support system

Slides 10-15

- Data separates truth from assumption
- Assumptions about international academic standing

Slide 16

- Combinations with other approaches

Slide 17

- Ongoing, data-driven adjustments and reform

Slide 18

- Data doesn't have to be laborious to work

Slide 19

- Data does need to be more than anecdotal

Slides 20-21

- Counting
- Frequency and rate

Slides 22-23

- When things get critical, we ask for rate
- Rate examples in school

Slide 24

- The meaning of fluency

Slide 25

- Fluency aims
- Empirically developed

Slide 26

- Thinking on your feet

Slide 27

- Haughton
- Most 40-50 correct written answers to addition problems per minutes
- Some could never move beyond 20 per minute
- Consequences (tokens, praise, notes to home, etc) irrelevant to breaking 20 / minute threshold

Slide 28

- More elementary skills (writing and reading digits) just accurate
- Built to fluency
- Only then did they move beyond 20 per minute on more complex skills
- Rate of correct responding in prerequisite skills (not just successful performance at any rate) is limiting factor in development of subsequent skills
- Thus, mastery defined by fluency, not accuracy

Slide 29

- Begin using count over time, directly measuring behavior, not some abstraction of behavior
- Celeration: linear measure of the rate of performance over time

Slide 30

- Bell curve (artificial adjustments)
- Letter grades, percentages, grade point averages
    - Infrequent measures
    - Emphasis on attainment of marks instead of learning
- Despite high correlation, doesn't necessarily mean material is well learned

Slide 31

- Time consuming, costly, requires person highly trained in psychometrics (may be short supply)
- Biased (what IQ actually measures)

Slides 32-34

- Standard Celeration Chart
- Successive calendar days
- Equal ratio scale (logarithmic)
- Count per minute scale (count divided by minutes)
    - .1 = 1 behavior every 10 minutes (not one tenth of a behavior in one minute; no fractional behaviors)
    - .01 = 1 behavior every 100 minutes
    - .001 = 1 behavior every 1000 minutes (not quite once every 17 hours)

Slide 35

- Learning curve

Slides 36-39

- Logarithmic scale straightens out traditional learning curve
- Advantage: Easier to visually extend and project straight line than curved line
- Proportional changes

Slide 40

- Rates to accelerate
- Rates to decelerate

Slides 41-55

- Examples

Slide 56

- Learning increases with and without charting
    - No chart
    - Teacher-chart
    - Self-chart
- Self-charting
    - Combinations with DI
    - First grade

Slide 57

- Cheating
  - Outside expected range
  - Opportunity to demonstrate
  - Must maintain "improvements"

Slide 58

- Peer tutoring

Slide 59

- Try to improve communication through plain English, acronyms, etc

Slide 60

- Emphasis on practice
  - 30 / 70
  - Threat to teachers (entertainers)
  - Entertainment from visible gains instead

Slide 61

- Used PT in addition to standard curricula for 15 – 30 minutes each day
- 1976-80
- 20 and 40 percentile points higher than control
- Unfair group comparisons (special ed)

Slide 62

- Morningside Academy