Slide 1

- February 17th: Online lecture (5 points)
  - No Safari!
  - Real, honest attempts
  - Click that Finished button!
  - E-mail me after complete
- February 22nd: Exam 4 (30 points)
- February 24th: Makeup exam 1

Slide 2

- Daughter
  - Then-recent developments in science
  - Critique of educational practices at the time
  - Skinner's solution
  - Addressing objections
- Harm beyond just not learning
- Accuracy years later
- "Recent" advances makes change possible
- Modern classroom research not respected or used

Slides 3-4

- Principle task in educational shaping is to bring desired responses under appropriate stimulus control
- How are such complicated verbal repertoire created?
- What reinforcers are used?
  - Escape threat of the birch rod or cane

Slide 5

- Escape from more minor aversives (teacher's displeasure, criticism / ridicule of classmates, lows marks, trip to office, parental disapproval)
- Shift from one form or aversive control to another

Slide 6

- Several minutes between R & Sr

Slide 7

- Shaping progressive approximations → final complex behavior
- Cannot deal w/ individual responses, thus no rfmt after each step
- Blocks of responses

Slide 8

- Relative infrequency of reinforcement
  - Recall natural rates

Slides 9-10

- Criticism for inefficiency
- Response: Child not "ready" to learn academic task
- Failing students and defensive teachers / parents escape blame
- "Ages & stages"
- Sometimes kids are stuck at a stage (not ready). Just wait for kid to become unstuck (develop)
- Parent has no recourse but accept seemingly thoughtful diagnosis
- Benefits for schools

Slide 11

- Skills minimized in favor of vague achievements: educating for democracy, educating the whole child, educating for life, and so on (note Skinner's assessment still true 50+ years later)
- Helps us redefine failure. May not have any skills, but supposedly closer to vague goal (unverifiable)
- Problem: These philosophies do not suggest improvements in techniques

Slide 12

- Sorting machine philosophy: schools do what the schools choose to do, and if kids fail, it's their own fault.
- Historical usefulness
- Most failed in this system, but that was fine (medical schools as an example).
- Schools' purpose was to sort, not create

Slide 13

- Why this philosophy is no longer useful and actually dangerous

Slide 14

- Sorting machine philosophy creates needless emotional harm
- No justification for misteaching and eroding confidence
- Figures and mathematical symbols become standard emotional stimuli
- Respondent pairing procedure
- Desired stimulus control: symbols evoke mathematical behavior
- Actual stimulus control: symbols elicit emotional reactions such as anxiety, guilt, or fear
- Kids know they are poor students and dislike academics

Slides 15-
22

- Example of creating poor readers
- Typical textbooks are very confusing
- Don't explicitly address orientation
- Using errorless learning technique

Slide 23

- Discrimination: Home environment and socio-economic status
- Schools provided setting, ineffective teachers, and extensive administration
- All that was needed was for parents to teach kids

Slides 24-
25

- All agreed that five factors may play a primary role in school learning or behavior problem.
- 120 cases each, group size 50
- Concluded that referred problem was due to …
- Defining the problem in a way that it can't be solved

Slide 26

- Any other field / demand increased production / laborsaving equipment
- Most efficient contingencies of rfmt / personal mediation
- Knob / unlike flashcards

Slide 27

- Make each successive step as small as possible
- Increases the frequency of rfmt
- Aversiveness of being wrong is minimized

Slide 28

- Rfmt for right immediate
- Correction of wrong immediate
- Typical consequence of attention / inattention deferred
- "probably be reinforcing enough"
- Can be supplemented

Slides 29-31

- Self-pacing
- Enforcement of mastery learning
- Compose rather than select
- Recall / recognize
- Plausible wrong answers / strengthen unwanted

Slide 32

- Competent / very large number / very small steps
- Rfmt contingent each step
- So small that success, but closer to competence

Slide 33

- Constant interchange
- Insist on understanding before proceed
- Presents just material ready for
- Helps student come up with right answer
- Reinforce every correct response

Slide 34

- Much of effective interaction from one-on-one instruction is lost when instruction is shifted to large groups
- Passive receiver
- Business training / difficult to form groups (homogeneous or otherwise)
- Teachers unavailable (new equipment or technique)

Slide 35

- Final authority: student (rat is always right)
- Feedback to programmer
- Trial run quickly reveals
- No comparable FB lecturer, textbook writer, or maker of films
- Usually impossible to isolate particular sentence, page, sequence
- To lets learners fail throughout year and do nothing irresponsible

Slides 36-37

- Not designed to "develop the mind" or some other vague "understanding"
- Establish behaviors taken as evidence
- Rote learning, but creativity
- True, no proven formula "genius"
- But…

Slides 38-
40

- Technological unemployment
- Tiresome labor
- Cost of mechanizing our schools
- Dependency
- Fading

Slide 41

- Higher standard due to being self-contained

Slide 42

- Computers / basic principles not followed
- Program of instruction inside machine, not the machine itself, that taught (confusing technology with technique)

Slides 43-45

- Demise of Teaching Machines
- Experiences with companies had not been encouraging
- "Learning" machines / "Hawthorne Effect" / etc
- "Waiting to see how the ball bounced"
- Waning enthusiasm of executives
- Safer investments, see how market responds before committing
- What prevented Teaching Machines
- "What is needed in education, is not innovation but a change in the establishment that will permit efficient teaching methods to be used."

Slides 46-47

- Shift to Programmed Instruction texts
- Loss of unique features

Slide 48

- Engelmann's videodiscs

Slide 49

- Victimized by instructional material (kids/teacher to blame)
- Fixing instruction: very careful unambiguous sequence
- Train teachers to be curricular designers (years, intensive)
- Control teacher say (script)

Slide 50

- Seems restrictive
- No hours plan lessons
- Just fluent enough with script to: observe / respond; about month
- Reduce prep time and assure clear presentation
- Unfortunately, neither structure for supervision or training

Slide 51

- Design program to relieve responsibility of most communication
- From design standpoint, avoid years intense train and much of the supervision / training

Slide 52

- Objection: learning styles, "individual differences" etc

Slide 53

- Gimmicks
- Disuse

Slide 54

- Behavior management / reinforcement delivery
- Monitor, determine if more practice, enforce repetition
- No "reteaching" or explaining (similar to supplementing / modifying scripts)
- Caution: children with history of helplessness (due to unclear instruction and dependence on teacher)
- Still need some supervision / enforcement

Slide 55

- Reaction of schools

Slide 56

- Headsprout

Slide 57

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