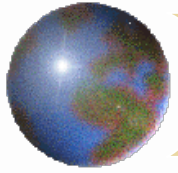


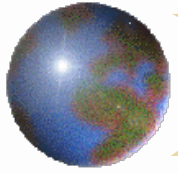
Investigating Students with Disabilities on the SAT

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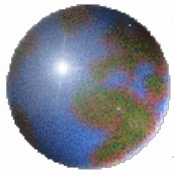
Observational Timing of the SAT

- ❖ Proctors say that 50% additional time may be too much
- ❖ Study attempted to determine the actual time used to answer questions
- ❖ Used both students with LD and AD/HD
- ❖ All from Princeton area
- ❖ Recorders watched test takers through one-way glass mirrors



Basic Data for the Observations

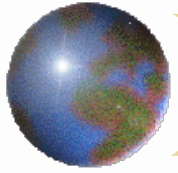
- Each student took 2 subtests:
 - 2 of 3 from among Reading, Writing, Mathematics
- Time limits were 45 minutes + 2 minutes
- About 50 LD and/or AD/HD students
- Broad-banding LD and AD/HD may have been a distortion
- 27 AD/HD; 22 LD (some had both)
 - 19 LD in Writing
 - 14 LD in Math



So How Much Time is Needed?

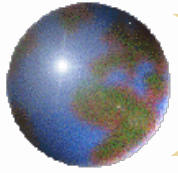
- On Sentence Completion, standard testing students needed 33 minutes (on average)
- Those in the other group needed 35 on average
- 4 SWDs needed more than 47 minutes
- 11 said they needed more time





Is Broad Banding an Issue?

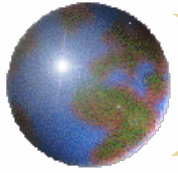
- On Sentence Completion:
 - Standard: 40.7 secs/item
 - LD: 42.9 secs/item
 - AD/HD: 38.7 secs/item
- Is grouping LDs and AD/HDs together reasonable?



How Many Extra Minutes are Needed?



- ✿ Critical Reading:
 - ✿ Standard: 56 secs/item
 - ✿ AD/HD: 55.5 secs/item
 - ✿ LD: 68.1 secs/item
- ✿ Was not clear if these times included reading the passage
- ✿ If one is adjusting time for SWDs, is the same procedure being used for all test takers?

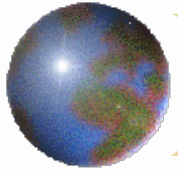


Longer Reading Passage Items—650 words

⊕ First passage:

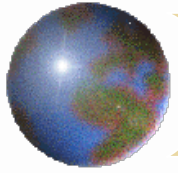
- ▣ Std: 62.2 sec/item
- ▣ LD & AD/HD: 68 secs (ns)
- ▣ LD: 75 secs/item
- ▣ AD/HD: 54.9 secs/item

⊕ Second passage: LDs were faster--- rushing? Example of how difficult this research is!



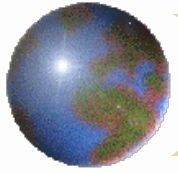
Mathematics

- 33 AD/HD or LDs
- Mean for standard: 33 minutes
- Mean for other sample: 38 minutes
- MC items: 81 secs. (disabled) vs. 70 secs (standard)
- Students with a Math LD: 82.1 secs
- That is an average difference of 17%



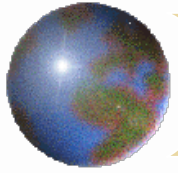
Fatigue Effects

- ✦ Studies LD & AD/HD
 - ▣ (50% and 100% extra time)—GREAT and needed
- ✦ Double time was across 2 days (?)
 - ▣ What does that do to the fatigue effect?
- ✦ Not clear why some got 50% & some 100%
- ✦ Is this study really assessing fatigue?
- ✦ Two criteria: Item Completion Rates & DIF
- ✦ Regarding item completion rates, as a formula-scored test, guessing at the end is reduced



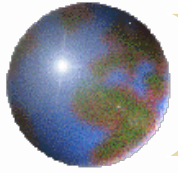
DIF in Fatigue Study

- ⊕ More SWDs completed tests than standard test takers
- ⊕ AD/HD again work faster than LD
- ⊕ Very few items with DIF
- ⊕ Slight fatigue effect for 1 & 1/2 time
- ⊕ Items identified for DIF
 - ⊕ Most were just for LD or AD/HD
 - ⊕ Some for both groups—worth studying
- ⊕ Need study akin to cross validation
- ⊕ Catch 22 of reusing such items



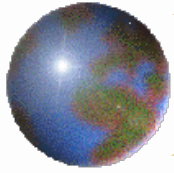
Latent Class Structures Study

- Factor-analytic studies of test structure
- MIRT studies (recently saw one that had a reading factor for weak readers on a mathematics test)
- 1.6% of SAT takers were SWDs
- “both respondents with and without disabilities endorse Math and Critical Reading items based strictly on their level of...abilities”



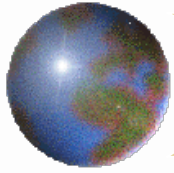
Other Latent Class Findings

- ⊕ LD: lower math and reading
- ⊕ AD/HD: higher math and reading
- ⊕ Visual/Physical disabilities: higher reading
- ⊕ One caution: test takers were all “conditioned” by ability. If there were systematic concerns, might not be reflected



Goals

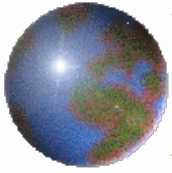
- Avoid speededness
- Measure same characteristics as in standard testing
- Two models:
 - Equate number of individuals finishing test
 - Estimate the time needed for each individual
 - ADA requires that testing accommodations be individualized
- These are some great and important studies!



Test Administration Time

- Glad to see scientific approaches to this issue
- Need to move beyond administrative convenience
- Is 50% extra enough?

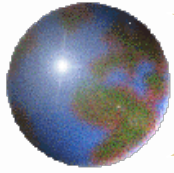




Timing and Politics



- ✿ Is 100% extra too much?
- ✿ Are there ways to quantify the extent to which a person needs extra time?
- ✿ Less time for AD/HDs than LDs?
- ✿ Can a testing company survive cutting time to SWDs?



Conclusions

- Validity is paramount
- Saw that in final paper
- Accommodations keep validity; we agree now
- Fairness to all is a close second
- Avoiding legal concerns
- Society benefits

