

Slide 1

**Unit 1 tests**

- Grade sheet
- Three digit code
- SAFMEDS
- Exam error diagnosis
- Review: PFT & person associated

Note that there are some differences between this PDF and the lecture presented in class. Most of the graphics and some additional examples may have been removed to facilitate downloading and printing. However, the text and basic content remains unchanged.

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**Direct Instruction**

Unit 2

Slide 3

**Siegfried Engelmann**

Bachelor's, philosophy  
Textbook adoption lawsuits  
U of OR, tenure  
Marketing (exposures slogans)  
Blank slate

Slide 4

I can do better than that

Publisher's learning materials

Slide 5

Bereiter-Engelmann

Logical analysis of concepts and operations. Children learn what they're taught.

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The Final Formation of Direct Instruction

Becker: "Where's the data?"  
Project Follow Through

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DISTAR

**D**irect **I**nstruction **S**ystem for  
**T**eaching **a**nd **R**emediation  
Almost nothing in common with  
typical teaching  
Radical differences tend to make  
unpopular

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Task Analysis

Piece-by-piece approach  
List all skills in order (typical  
mistakes: skipping steps, no overt  
action, too few steps)

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Generalizable Rules (example: 9x)

Whenever a rule can be derived, it is  
explicitly stated and taught. In public  
education, surprisingly rare (9s  
multiplication)

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**Weird story**

- don won cow on fifth. win in noon.
- now will don win dull doll? no cloth on doll.  
will don fill doll? doll full?
- count width of lid. lid thin!
- count width of cod fin. found cod fin foul! don  
will thud!
- doll found confound of cow. cow full of foul!  
will doll now con don?

56 word "story"

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**Teach child to read weird story**

1. con	16. of
2. full	17. on
3. cloth	18. cod
4. count	19. nod
5. thin	20. confound
6. won	21. found
7. don	22. foul
8. width	23. now
9. dull	24. did
10. fin	25. thud
11. win	26. will
12. in	27. no
13. fifth	28. lid
14. noon	29. doll
15. cow	30. fill

How to teach in 10 parts instead of 30 parts

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**Finding Rules is Hard**

Plank / Golden Gate Bridge  
Very detailed and specific plans  
needed for complex behavior

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### Homogeneous Placements

- All who have mastered prerequisites
- Will master objectives

Each DI program contains placement test to be administered to each student. Assess a) prerequisites, b) skills taught during program, and c) program's objectives.

Important because if diverse groups, no lesson can meet needs

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### Placement must be flexible

Placement groups not set in stone  
Daily and weekly assessments.

"Real placement is performance on first few lessons."

Watch for indication that placement no longer appropriate

Shift to more advanced / less advanced group, possibly multiple times throughout school year

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### Placements can reduce misbehavior

Misbehavior controlled by reinforcement

Lesson beyond skill level / boring →  
Act out

Escape tedium / frustration

Again, good behavior clock example

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But isn't that just tracking?

Tracking: grouping children according to expected performance  
"You have reduced expectations for certain students"

"Expect less from them academically"

Tracking: Stigmatizing?

No tracking: Lesson beyond skill level / boring → Act out ☒ Kick out of class / academic failure ☒

Stigmatizing

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Clarity

Concepts / operations: one and only one possible interpretation

Explicitly teach components carefully sequenced

Objectives state students say / do; not know / understand

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Exceptions to Strategy

First teach instances consistent with strategy (mammals; imprinting)

Withhold exceptions until well-practiced

Early exceptions: excessive errors

Confusing items also withheld until after sufficient practice: d27, b121

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Examples and non-examples

Mastery of rules (strategy) requires full range of examples and non-examples

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Fading of assistance

Examples:  
Early part of program: substantial directed practice, little independent practice  
Later part of program: increased independent practice, directed practice on new tasks  
Overtized → covertized problem-solving  
Simplified contexts → complex contexts  
Providing prompts → removing prompts

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Fast paced

Teacher instruction should be as fast paced as reasonably possible  
Fast enough to keep attention, not so fast that errors are generated

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Why speed matters

4-6/minute instruction; 9-12/minute practice  
More opportunities for responding  
Therefore: Correct errors / strengthen newly learned skills more often

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Mastery

Continuing repeating task until correct without hesitation to all items  
Periodic mastery tests (every five or ten lessons)  
Lesson / day  
Specific, explicit correction techniques if fail

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Asking too much

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Skillful delivery should be enough

Jet pilots / build planes / even maintain  
Just do pre-flight check obvious deficiencies  
Teachers build and teach / no better than pilot for building/maintaining plane  
Enough that teacher delivers properly designed program

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Doing instructional design for teachers

Instructional designer, not teacher: identify strategies / develop steps to build skills / create scripts  
Teacher: present accurately, clearly, engaging style.  
Instructional decisions based on performance, such as pacing, corrections, repetition / advancement, placement tests  
Motivate students and control classroom

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Scripted Presentations

Not some general set of hints  
Exactly what teacher says / what to expect students  
Specific explanations, examples, wording of rules, correction procedures, mastery criteria

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To teach, or not to teach...

Difference is similar to that between Shakespearean play and improv theater

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Scripts and misbehavior

Achievement increases / misbehavior decreases (in part, for similar reasons to placement tests)

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Built-in Reinforcement

Another aspect of why misbehavior decreases  
Learning task as own reward  
Prompts for teachers  
Varying wording

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## Choral Responding

Need an overt response  
-Deliver contingent reinforcement with certainty  
-Monitor progress  
Choral means all students have multiple opportunities  
Active engagement of all  
Coordinating timing

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## Older learners

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## Error correction

Another advantage of choral: Can correct immediately  
All errors are corrected (non-critical and specific to error)

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Avoid singling out individual

Repetition not wasted

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Model

Model task for students so  
understand correct answer is & is  
not  
Steps to getting correct answer

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Lead

Students repeat procedure with  
teacher

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Test

After content students know, chance to do independently  
Variations: Rule instead of model  
Delayed test instead of test

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DISTAR example

Home-based program  
Preschool (bright three-and-a-half-year-olds, average four- and five-year olds)  
School children who haven't learned to read  
NOT: Poor readers, already taught but frequent mistakes

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Time Frame

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Source of errors

Changed-trying out-changed-trying out-etc until smooth and manageable

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Typical texts

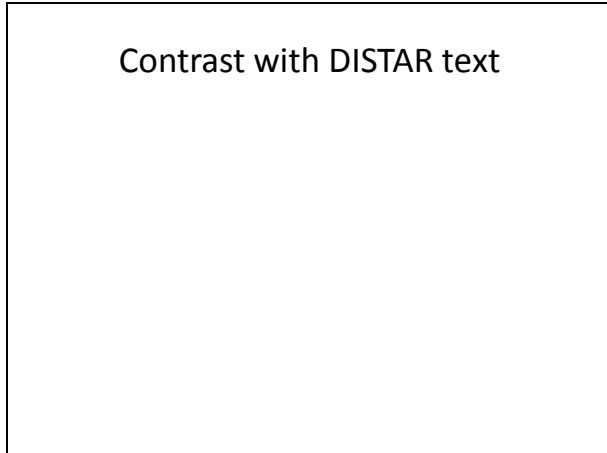
Basal readers (reading books)  
Anthologies of short stories

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Errors and basal readers

Analysis of four most widely used basal readers in fourth through sixth grade  
Specific error correction procedures  
Allow more time

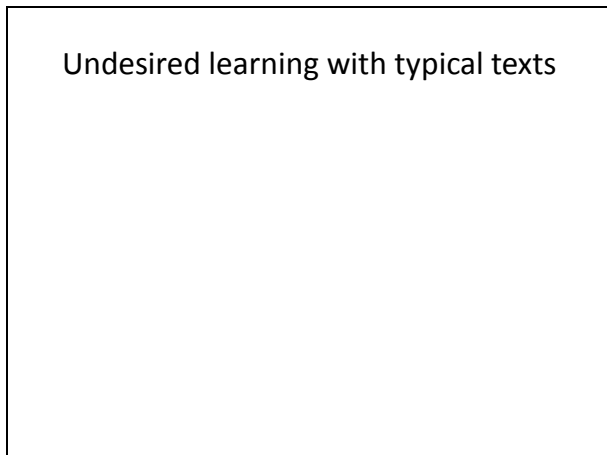
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Contrast with DISTAR text

Coursepack examples

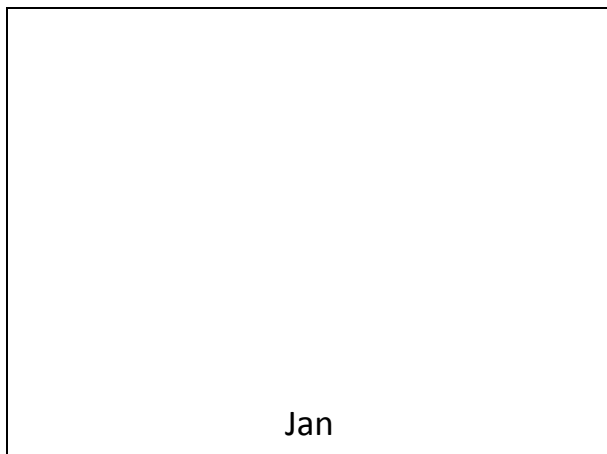
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Undesired learning with typical texts

He, go, fat, run, with  
First letter "reading"  
Him  
Big problem: error not discovered as occurring

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Jan

Discuss details  
Point to word  
Misconception about how to read:  
-You read words by referring to a picture  
-You must understand the word that is to be decoded before you can read it

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Decoding

Not teaching understanding  
Teach to decode sentences that are  
then to be understood

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Further effects of labels

1<sup>st</sup>: disability in teaching method,  
not child's head  
2<sup>nd</sup>: students believe  
Hate trying to read (or be schooled  
in general)  
Cure: neurosurgery, drugs, starting  
over more carefully  
Change in self-image

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Orthography

Orthography: letters that make up  
words, or how words are spelled  
Spelling in everyday reading

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DISTAR's seven minutes of fame

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DISTAR  
Orthography

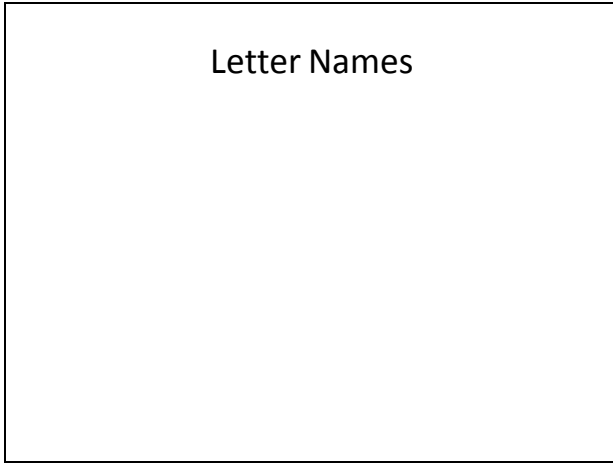
Page 17

Two variations for a and e  
Joined letters to make words regular

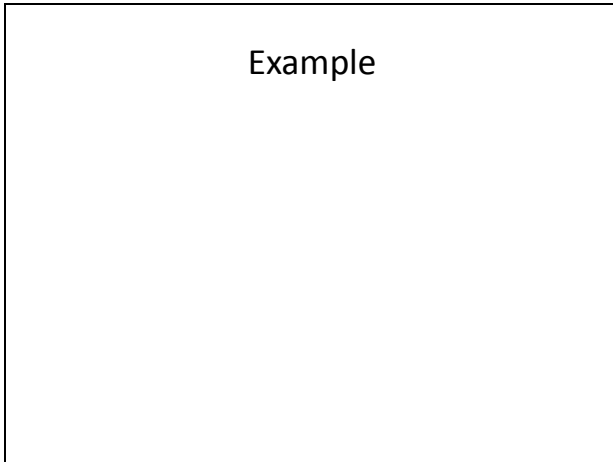
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Small Letters

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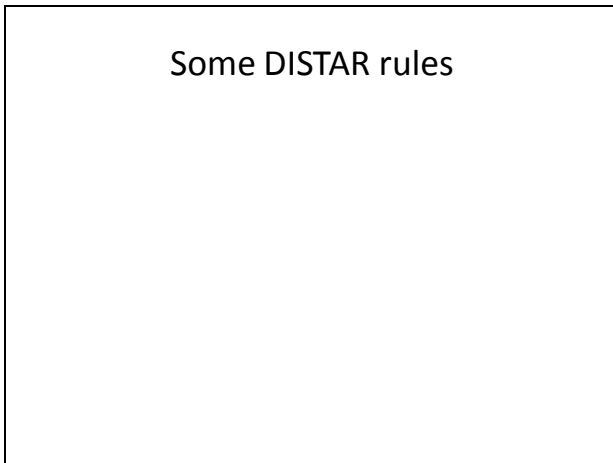


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emmaytee  
Note blending

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Other rules

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Blending

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Fading of prompts

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### Fading to Traditional Orthography

Lesson 74

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### Getting sufficient practice

Do not skip, even if appears within skill level of child  
Extra reinforcement

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### Script conventions

- What you say appears in red type
- What you or the child does appears in parentheses
- What the child says is presented within quotation marks

Decreasing assistance with who touches ball and moves across arrow

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Recommended reinforcer

“That’s amazing” “I thought you’d have a lot more trouble than that.”  
“He’ll never believe it.”

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Saving face

“Those were hard words, weren’t they? Let’s go over them one more time and make sure that we can do them. I’ll bet some of them will come up again tomorrow.”

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Two cautions with reinforcement

If after every task: off-task  
Lengthy rfmt: also break  
Do not reinforce interruptions  
 (“Whoa. Not now.”)

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## Training Lessons

Part of problem with developing DISTAR workplace materials  
But still import some basic ideas:  
Careful task analysis (job analysis) that breaks desired performance in individual skills  
Teaching generalizable rules  
Revising material based on trainee performance (instructional design)  
Fast paced with overt performance  
Placement testing (job selection and placement)  
Frequent assessment during training  
Clarity: often violated  
High levels of practice  
Separate roles of trainer and training developer  
Scripts with built-in rfmt  
Immediate error correction  
Model-lead-test

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- ### THE END: QUESTIONS?
- Next Monday (Jan 28<sup>th</sup>)
    - Assistance hours with Megan
    - Wood Hall Lounge 5:30 – 6:30
  - Next Tuesday (Jan 29<sup>th</sup>)
    - 35-point unit 2 exam
  - Next Thursday (Jan 31<sup>st</sup>)
    - Have SAFMEDS for all study objectives constructed BEFORE class
    - Bring with you, along with card with name and rubber band or clip to hold together
    - At least 8 SAFMEDS with answers on back
  - UNIT 3: Also bring calculator and ruler with you to second lecture

See syllabus to review unit 3 requirements and complete requirements before next Thursday