

Effective Group Instruction and Direct Instruction

August 2, 2016
National Autism Conference
Penn Stater Conference Center

Ashley Harned
PaTTAN Autism Initiative ABA Supports



Pennsylvania Training and Technical Assistance Network

PaTTAN's Mission

The mission of the Pennsylvania Training and Technical Assistance Network (PaTTAN) is to support the efforts and initiatives of the Bureau of Special Education, and to build the capacity of local educational agencies to serve students who receive special education services.

PDE's Commitment to Least Restrictive Environment (LRE)

Our goal for each child is to ensure Individualized Education Program (IEP) teams begin with the general education setting with the use of Supplementary Aids and Services before considering a more restrictive environment.

Overview and Learning Objectives

- Review effective/direct instruction (di) and Direct Instruction (DI)?
- Review of DI history and basic research
- Review basic teaching procedures
- Prerequisite skills necessary to be considered for placement
- Review of available curricula

direct instruction

- Systematic approach to instruction correlated with high levels of student performance.
- Students will learn if we teach essential skills in the most effective and efficient manner possible; focus is placed on explicit and systematic teacher-led instruction. (Carnine, Silbert, Kame'enui, & Tarver, 2004)

Some Notes on Effective Instruction:

- Instructional variables relating teacher behavior and classroom organization to high levels of student performance (explicit instruction):
 - Highly structured with focus on instructional content
 - Clear goals selected and controlled by teachers
 - Adequate range of examples and non-examples
 - Sufficient time allocated for instruction
 - Continuous instruction
 - Skills sequenced from easiest to hardest
 - High rates of correct student responding
 - Immediate performance feedback (reinforcement)
 - Materials at appropriate instructional level
 - Appropriate pacing of lesson.

Rosenshine 2012

Some Notes on Effective Instruction:

- Begin lesson with review of previous learning
- Present new material in small steps
- Provide models
- Guide student practice
- Use clear and concise language
- Provide many opportunities for students to practice new information
- Monitor student learning/responding
- Get high success rate
- Provide scaffolds for difficult tasks
- Require and monitor independent practice

Rosenshine 2012

Effective instruction principles establish instructional control through:

- Seating arrangement, teacher can observe responding
- Keep all students within “touching distance”
- Place lowest performers closer
- Break “cliques”
- Introduce rules that the group is to follow right from the start
- Get into the lesson quickly
- Present each task until children are firm (responding correctly and with little hesitation)
- Use clear teaching signals
- Use quick pace and group responses
- Use of individual turns as a tactical strategy
- Reinforce good performance (motivation is key!!!): Praise should be specific and relevant to the task at hand
- Specific correction strategies for non-attending, non-responding and signal violations, response errors

Engleman 1995

direct instruction (di) or explicit instruction

(Rosenshine, 1986)

- Correct previous day's homework & **review** what has been taught.
- Describe **goal** of lesson.
- Present new material in small steps, using clear instructions and modeling ("**I do**").
- Provide repeated opportunities for students to practice with feedback ("**We do**"); monitor student learning through varied exercises.
- Continue with practice until independent performance ("**You do**").
- Provide review ("**You do over time**").

9

What is **D**irect **I**nstruction?

- An explicit, scientifically-validated model of effective instruction.
- A *system* of teaching that attempts to control **all** the variables that make a difference in the performance of children.
- Published, research-validated curriculum.
- Formerly called DISTAR.

- Differs from other models of explicit instruction by its focus on curriculum design and effective instructional delivery
 - Explicit instruction is NOT: (Harris & Graham, 1996)
 - Trial-and-error learning
 - Discovery
 - Exploration
 - Facilitated learning
 - Teacher assisted rather than directly taught.

History of Direct Instruction

- 1966: Bereiter and Engelmann publish *Teaching Disadvantaged Children in the Preschool*.
- 1967: Engelmann and Becker invited by the Office of Education to develop a program appropriate from K-3, which resulted in the Direct Instruction Model being selected for the Project Follow Through study.
- 1968: DISTAR was published .
- Programed has broadened to other areas of application (literary analysis, logic, chemistry, critical reading, geometry, and social studies).
- Project Follow Through: Experimental phase from 1968-1976. Funding for service program discontinued in 1995.

Project Follow-Through

Background:

- Largest educational study in U. S. history
- Took place from 1968 to 1976
- Examined low-income, at-risk students
- 75,000 students in 170 communities were involved
- Students participated from K – 3
- Examined effectiveness of 9 educational methods across 3 categories
 - Basic Skills Models
 - Cognitive/Conceptual Models
 - Affective Skills models

Adams, G. L., & Engelmann, S. (1996). *Research on Direct Instruction: 25 years beyond DISTAR*. Seattle, WA: Educational Achievement Systems.

13

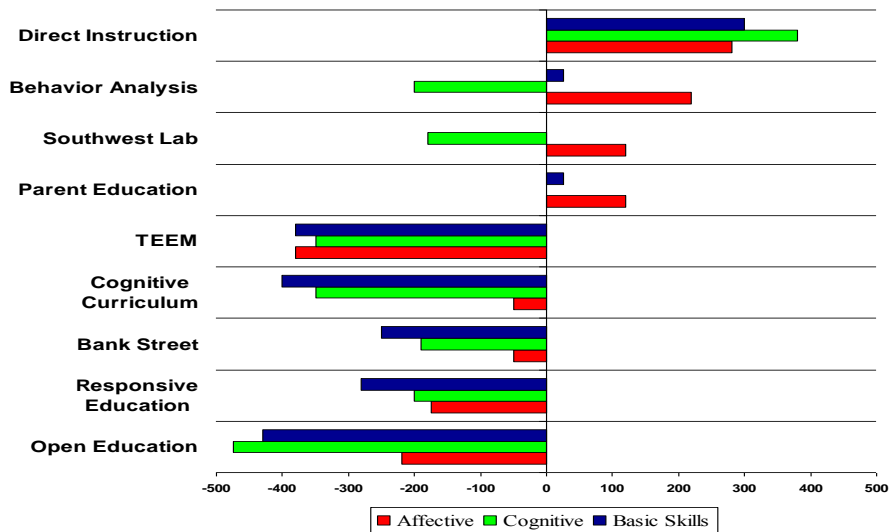
Project Follow-Through

9 Models of Instruction across three categories:

- Basic Skills Models
- Cognitive/Conceptual Models
- Affective Skills models

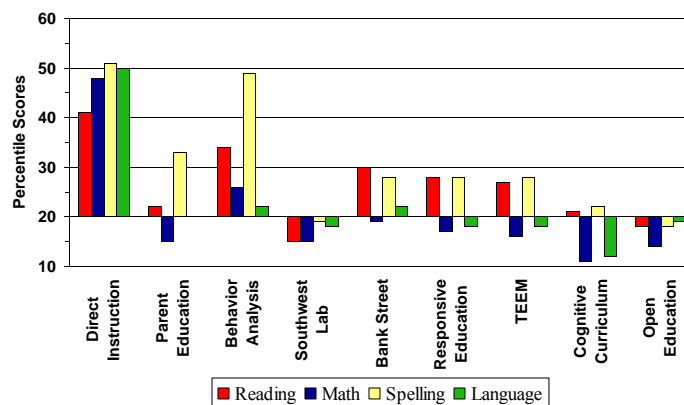
14

Index of Significant Outcomes



Stebbins, et. al., 1977

Project Follow Through - Comparison of Models



Stebbins et.al., 1977

American Federation of Teachers (1999)

- Identified Direct Instruction one of six promising programs for raising student achievement, especially in low-performing schools. The program showed evidence of:
 - High Standards
 - Effectiveness
 - Replicability
 - Support Structures

American Institutes for Research (1999)

- Direct Instruction was identified as one of three programs (out of 24) to show strong evidence of positive outcomes on student achievement.

Center for Research on the Education of Students Placed at Risk (2002)

- Direct Instruction is one of three models (out of 29) with “strongest evidence for effectiveness.”
 - Direct Instruction had “statistically significant and positive achievement effects based on evidence from studies using comparison groups or from third-party comparison designs.” (p. 29)

DI Philosophy

- The DI philosophy holds that the single most decisive factor in student’s performance is the quality of instruction they receive from their teachers. This philosophy is based on certain principles:
 1. Learning is a behavioral process that can be observed and directly measured.
 2. All children can learn when taught correctly, regardless of past history.
 3. All teachers can be successful, given effective teaching materials and presentation techniques.

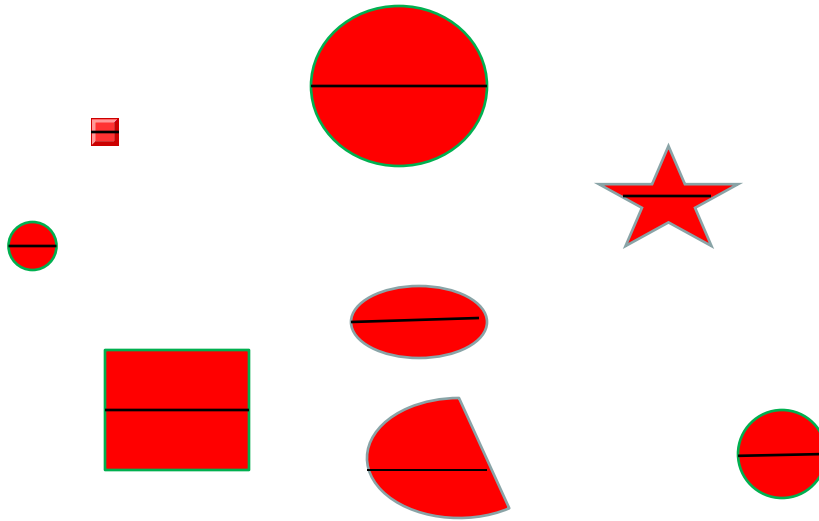
Three Main Components of Direct Instruction Programs

- Program Design
- Instructional Organization
- Teaching Techniques/Student Teacher Interactions

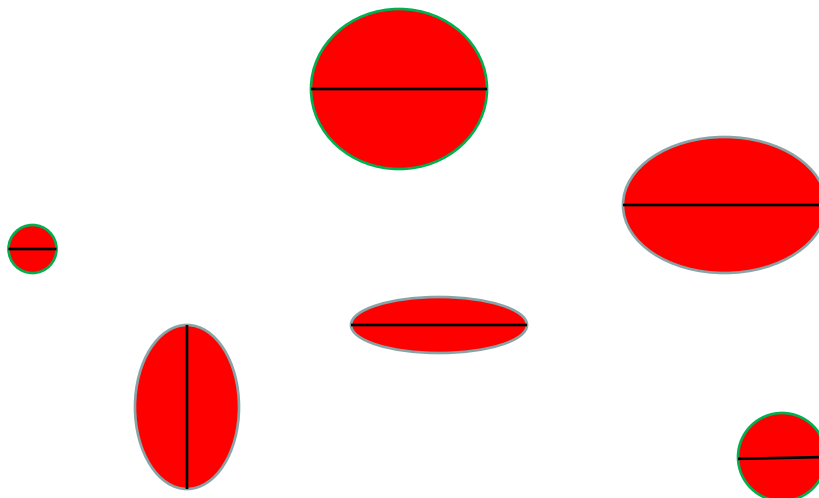
Main Components of Direct Instruction: Program design

1. Analysis of content matter and identification of organizing ideas and generalizable strategies to enable more learning in less time
2. Clear communication is designed:
 - **Wording Principle:** use wording that is similar across all items so students can focus on the details of instruction (minimizes distractions and confusion likely caused by variation in teacher language).
 - **The setup Principle:** Examples and non-examples share the greatest possible number of irrelevant features.
 - **The Difference Principle:** Non-examples shown are similar to one another and to the examples except in the critical feature and the difference of the non-example is just enough to change the positive example to a negative example.
 - **The sameness Principle:** Show the range of variation (full range of positive examples and limit of variation shown by negative examples).
 - **Testing Principle:** Test for new examples and non-examples to test for generalization.

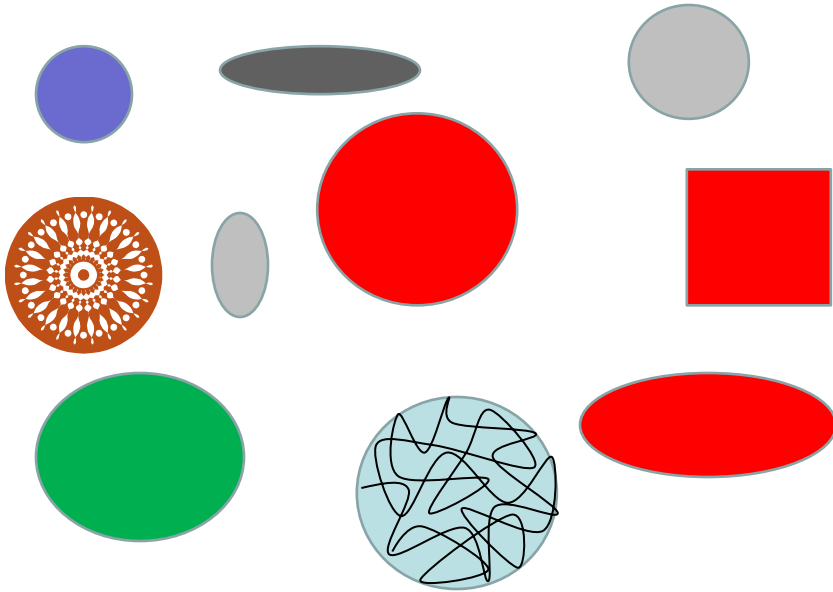
Set-up Principal:



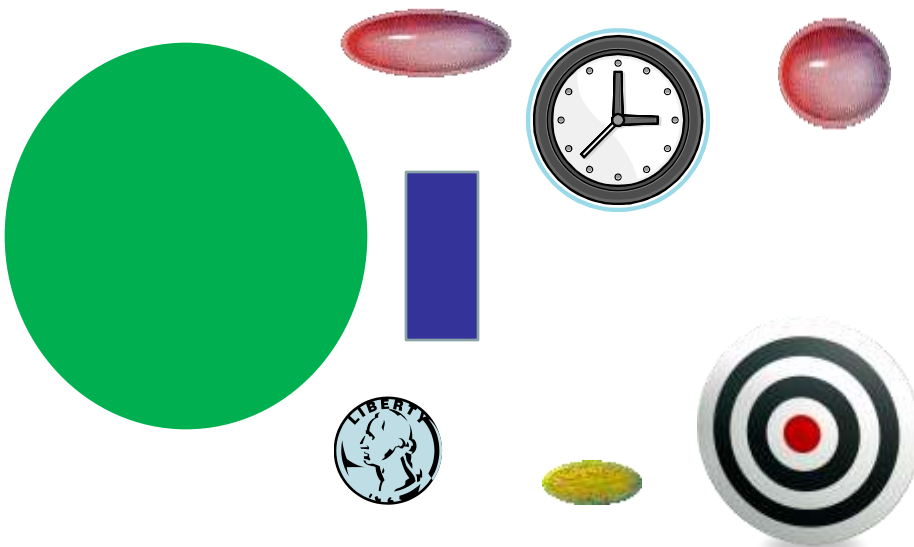
Difference Principal:



Sameness Principal: Range of Variation



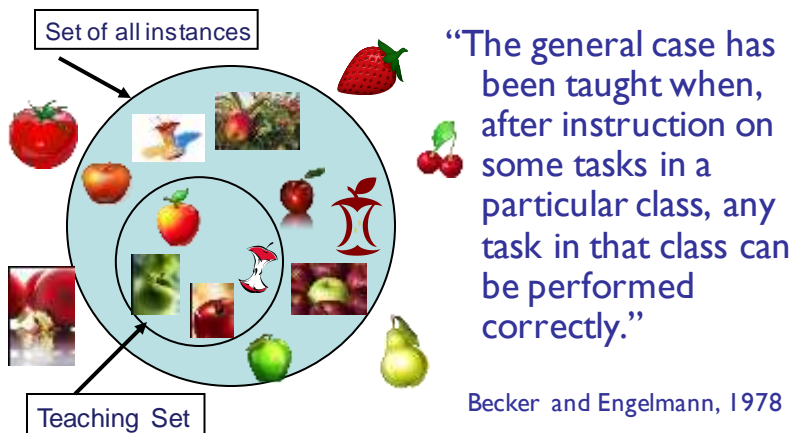
Testing Principal:



Main Components of Direct Instruction: Program Design

3. Instructional formats are designed to structure the student-teacher interactions: clear and concise and specify the way teachers will present each example.
4. Skills sequenced to maximize success and minimize confusion: emphasis on teaching skills that will allow students to be successful at strategies they will learn later on.
5. Topics and objectives are organized into tracks to allow for systematic skill development and support cumulative review and application
6. Provides opportunities for guided practice and cumulative review
7. Incorporates continuous assessment and management

General Case Instruction



General Case Instruction

10 whole words

vs.

10 sounds and blending skill =

- 720 three-sound words
- 4,320 four-sound words
- 21,600 five-sound words

Becker, 1971 (An Empirical Basis for Change in Education)

Main Components of Direct Instruction: Organization and Delivery

1. Organize students into groups to best meet their needs.
2. Develop clear instructional objectives
3. Allocate sufficient time for teaching: students should be involved in learning activities that they can perform successfully.
4. Quick pace and high rates of individual and group responses to maintain active student responding/engagement.

Main Components of Direct Instruction: Organization and Delivery

5. Implement planned correction procedures
6. Provide reinforcement to keeps students motivated
7. Implement precise and careful plans through presentation of scripted lessons to ensure consistency.
8. Use of in program assessments to assess/monitor student performance.

Main Components of Direct Instruction: Organization and Delivery

- | | |
|---|--|
| <ul style="list-style-type: none"> • Scripted Presentations <ul style="list-style-type: none"> – Provide examples – Standardized wording – Ensure precision – Provide efficient corrections – Controlled time per activity – Increased academic learning time | <ul style="list-style-type: none"> • Rules for reviewing scripts <ul style="list-style-type: none"> – Decide where to add think time and get ready – Where to add pause and punch – Where to verify responses – Where to add overt responses – Where to add meaningful repetition – Where to modify or add examples |
|---|--|

Main Components of Direct Instruction: Organization and Delivery

- **Grouping:**
 - Group size and composition adjusted to accommodate and reflect student progress and lesson objectives.
 - ***Grouping is flexible and dynamic***
 - Group size is differentiated according to the needs of students
 - ***Students with the greatest needs are taught in the smallest groups.***
 - Cross-class or cross-grade grouping may be used *when appropriate* to maximize opportunity to tailor instruction to students performance level.
 - ***Groups are homogeneous***

Main Components of Direct Instruction: Teaching Interactions

1. Active student participation
2. Group unison responding
3. Signals
4. Pacing
5. Teaching to mastery
6. Correction procedures
7. Motivation

Set-Up for Successful Teacher-Student Interactions

- Clear expectations (rules and routines)
- Materials organization
- Seating
 - Assign seating
 - Lower performers closest to teacher
 - All students can see the teacher/materials
 - Teacher can see all students in the group
 - Teacher can see independent workers



Basic Teaching Template: Instructional Format Model-Lead-Test-Verify

Frame: The teacher states the learning task at hand.

Model: The teacher provides the expected response verbally or through demonstration. If needed, the teacher repeats the model to make sure all students heard or saw it.

Lead: The teacher and students respond together—several times if needed to ensure that all students practice responding correctly with teacher.

Test/Check: Students perform the task independently, several times if needed to do it correctly.

Verification: The teacher provides specific praise—stating what the students learned.

Sample Format

		m	man
Model	Teacher	<i>"This letter makes the sound /mmm/"</i>	<i>"My turn to sound out this word. Mammaannnn"</i>
Lead	Teacher and Students	<i>"Say it with me, /mmm/"</i>	<i>"Sound it out with me, mmmmaaannnn"</i>
Test	Students	<i>"What sound?"</i>	<i>"All by yourselves, sound it out."</i>
Verify	Teacher	<i>"Yes, /mmm/"</i>	<i>"Yes, mmmmaaannnn"</i>

Signals

- Cues that are used to control the timing of students' responses.
- 2 types:
 - **Visual:**
 - Used when students are looking at the teacher, at the board, or at the a presentation book.
 - The teacher signals the students by making some type of hand motion.
 - **Auditory:**
 - Used when students are looking at their own text to read word lists, stories, and skill exercises.

Purpose of using signals:

- Increases the likelihood of ALL students initiating a response.
- Allows ALL students to practice the task.
- Allows the instructor to monitor every student.
- Allows the instructor to hear incorrect responses and correct them immediately.

4 basic steps:

- A focus cue to gain students' attention and present the task
- Brief pause (about 1 second) to allow think time
- A verbal cue ("get ready")
- A signal

Why the pause?

- Provides a break between the question/task presented and the signal
- Ensures that every student sees or hears the signal
- The group answers more effectively

Rule of thumb

- Signal for student to respond.....
 - Instructor only talks on focus position
 - Instructor never talks and moves

DI Curricula Available

DI Curricula Available

- All commercially available DI programs are published and developed by the Scientific Research Associates (SRA), a part of MCGraw-Hill School Education.
(<https://www.mheonline.com/segment/view/1/3>)
- Reminder: originally designed for instruction within general education setting BUT can be used with special education students in small groups or individually

DI Curricula Available

Reading Programs

- Curriculum-based assessment and fluency system that monitors student performance
- Phonics-based program to teach decoding and comprehension skills

DI Curricula Available: Reading

Reading Mastery

- Use of orthography in beginning levels
- Three versions: Classic, Plus & Signature Edition
- Reading Mastery Classic
 - Goal is to bring students up to grade level by end of first grade
 - Two Levels – Kindergarten & Grade I
 - Fast Cycle available – presents contents of both level in one school year

DI Curricula Available: Reading

- Reading Mastery Plus (no longer available but some schools have this)
 - Comprehensive K-6 core reading program
 - Programming combines lessons from the following: Reading Mastery Classic Level I & II, Reading Mastery Level III-IV, Language for Learning, Language for Thinking, and Reasoning and Writing.
 - Not as much repetition in this program

DI Curricula Available: Reading

- Reading Mastery Signature Edition (2008)
 - Newest version of Reading Mastery available
 - K-5th
 - Includes the following strands that are purchased separately:
 - Reading strand
 - Language Arts strand
 - Literature strand
 - Fast Cycle is available
 - Transition Program between Grade 1 and 2 → additional 35 lessons to increase fluency

DI Curricula Available: Reading

- **Horizons**

- Uses traditional orthography – other types of prompts are used (i.e., underlines and different colored text)
- NOT appropriate for the at-risk student with little language or literacy knowledge.
- Student must demonstrate most letter names and fluently follow instructions.

– Four levels → A, B, A/B, and C/D

– Grade 1-4th

DI Curricula Available: Reading

- **Corrective Reading**

- Designed for students Grade 4 – high school
- Four decoding modules and four comprehension modules

– **Decoding Modules: A, B-1, B-2, & C**

- A – students reading at early first-grade level
- B-1 – students reading at late first-grade level
- B-2 – students reading at beginning third-grade level
- C – focuses on late elementary school decoding

– **Comprehension Modules**

- Begin with students with a fourth-grade level or higher

DI Curricula Available

Language Programs

- Three Main programs:
 - Language for Learning
 - Language for Thinking
 - Language for Writing
- Formerly known as DISTAR Language I, II, and III

DI Curricula Available: Language

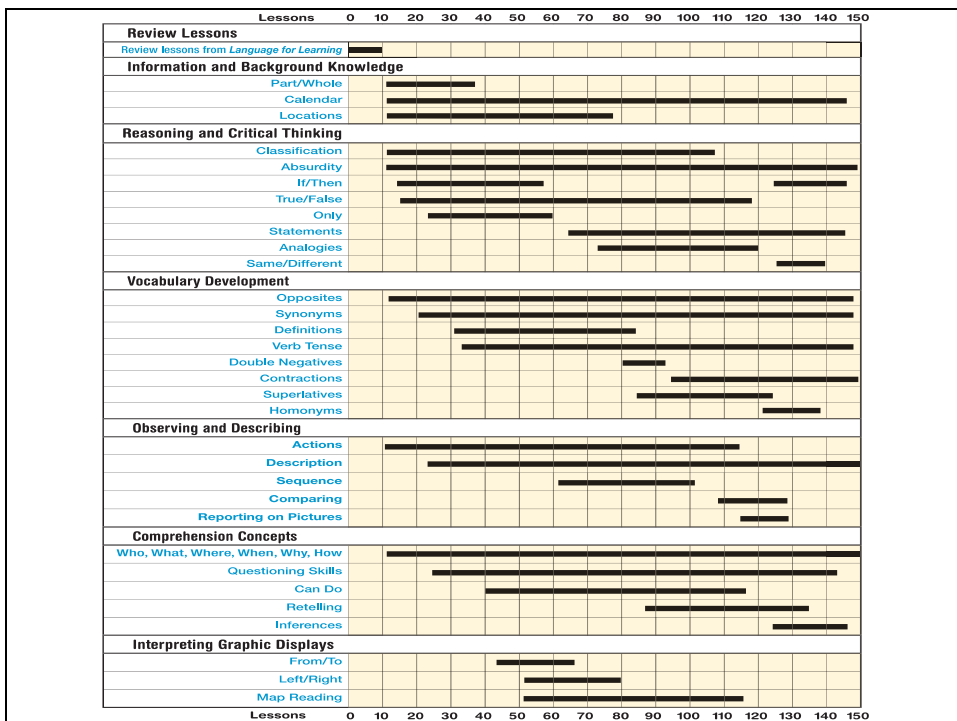
- Language for Learning
 - Designed for Pre-K – 2nd
 - Oral program that requires no reading for the student
 - Focuses on foundational language concepts and vocabulary
 - Teaches common information
 - Teaches how to analyze and make predictions around statements
 - Fast Cycle available

Lessons	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
Basic Actions																
Beginning Actions																
Parts of the Body																
Pictures–Actions																
Pronouns																
Actions–Tense																
Tense–Pictures																
Actions–Review																
Descriptions of Objects																
Object Identification																
Identity Statements																
Common Objects																
Missing Objects																
Plurals																
Opposites																
Comparatives																
Information and Background Knowledge																
Names																
School Information																
Days of the Week																
Months of the Year																
Seasons																
Part/Whole Relationships																
Materials																
Common Information																
Locations																
Instructional Words and Problem-Solving Concepts																
Spatial and Temporal Relations																
Before/After																
Prepositions																
And																
Same/Different																
Some, All, None																
Or																
Where, Who, When, What																
If-Then Rules																
Classification																
Classification																
Problem-Solving Strategies and Applications																
Review																
Concept Applications																
Absurdities																

Lessons	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
Colors																
Cross-Out Marks																
Completion																
Crossing Out Objects																
Matching																
Touching																
Cross Out and Circle																
Part Relations																
Temporal First, Next																
Spatial First, Next, Last																
Top, Bottom, Middle; Front/Back																
Part/Whole																
Opposites																
Plurals																
Shapes																
Classification																
Concept Application																
Materials																
Prepositions																
Same/Different																
Locations																
Comparatives																
Some, All, None																

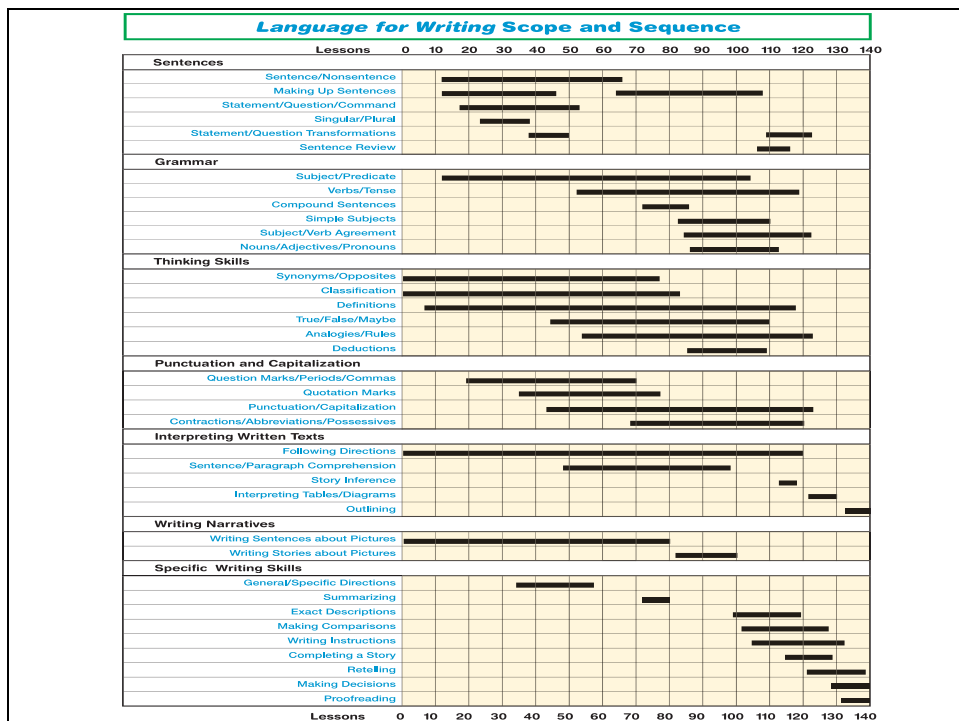
DI Curricula Available: Language

- Language for Thinking
 - Designed for 1st – 3rd
 - Expands concepts learned in Language for Learning
 - Applies concepts to build and teach problem solving – analytical and deductive reasoning skills
 - Expands vocabulary



DI Curricula Available: Language

- Language for Writing
 - Designed for 2nd – 6th
 - Focuses on teaching communication skills through writing
 - Supports writing skills through writing narratives, use of specific words, making precise comparisons, summarize and re-tell, and proof read for punctuation, grammar and word usage.



DI Curricula Available

Math Programs

- Connecting Math Concepts: Comprehensive Edition 2012
- Distar Arithmetic
- Corrective Math

DI Curricula Available: Math

- Connecting Math Concepts
 - Designed for K – 5th
 - Levels A-E
 - Ongoing development of mathematical concepts and problem solving

DI Curricula Available: Math

- Distar Arithmetic
 - Designed for K – 3rd
 - Two Level – I & II
 - Teaches basic math skills and concepts
 - Frequent in-program mastery tests

DI Curricula Available: Math

- Corrective Math
 - Designed for 3rd – Adult
 - Two groups:
 - Group 1 – Addition, subtraction, multiplication and division
 - Group 2 – basic fractions, fractions, decimals and percents, and rations and equations

Review of Curriculum Specific Signals

Language for Learning/Thinking Signals

- Hand Drop
- Point/touch
- Signals are used only at the precise moment when student should respond.
- Instructor never talks and moves...all talking occurs with instructor at focus point

Point/Touch Signal

- Look at the picture.
- Point to the picture (make sure all students can see it).
- Ask the question or give the instruction.
- Hold your finger in the point position for one second.
- Signal with a tap.

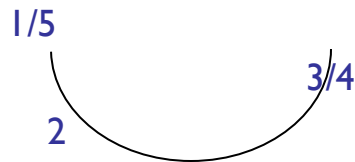
Hand Drop Signal

- At the beginning of each step of the exercise, raise your hand. **DO NOT** move your hand while talking.
- Ask the question or give the instruction.
- Pause for about one second, and then quickly drop your hand to signal for students to respond.

Reading Mastery Signals

- **Continuous sound signal: loop**

1. Focus
2. Preparation
3. Response
4. Release
5. Verify



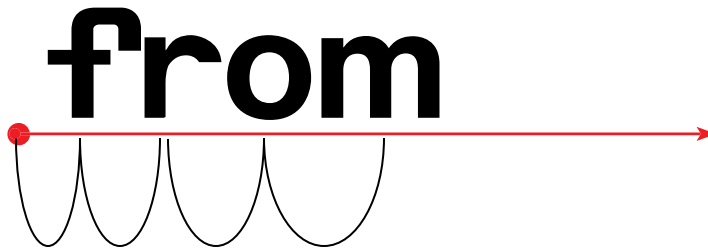
Reading Mastery Signals

- **Stop sound signal: slash**

1. Focus
2. Response
3. Verify

1/3 2

Continuous sound signal: loop



Reading Mastery Signals

- **Stop sound signal: slash**

1. Focus
2. Response
3. Verify



Reading Mastery Signals

- **Pronunciation signal:** hold up finger
 - 2 seconds for continuous sounds
 - Flash for stop sounds

Reading Mastery Signals

- **Sequencing signals**
 - **Slash:** with pictures
 - **Hand drop or finger:** no pictures
- **Saying Sounds:**
 - **Hold up finger:** slow sounds
 - **Hand Drop:** Say it fast
- **Rhyming Signals:**
 - **Loop stopping for one second at ball then slash to arrow (loop & slash):** for sounding out
 - **Slash quickly:** For say it fast
- **Sound out:**
 - **Loop-Loop**

Connecting Math Concepts and Distar Math

- Point/Touch
- Hand-drop
- Audio signals (e.g. pencil tap, finger snap, or claps)

Summary of Signals

Language for Learning/Thinking

- Point/Touch
- Hand-drop

Reading Mastery

- Continuous Sounds (Loop)
- Stop Sounds (Slash)
- Say It Fast (Hand Drop)
- Blending (Fingers)
- Audio (Clap-Tap)
- Point/Touch

Connecting Math

- Point/Touch
- Hand-drop
- Audio signals (e.g. pencil tap, finger snap, or claps) 7/44

ERROR CORRECTION

General Corrections

1. Student not attending/not responding consistently:

- Teacher corrects by saying, “Let’s try again”, and returns to beginning of task. (“Keep your place”, “Eyes on me”, “Get ready”, Signal/call individual student’s name, Verify in complete sentences, Turn individual responses into group responses)
- Review effective teaching practices (VR, prompt procedures, error correction)

2. If a student fails to answer when the signal is given...

- Teacher corrects by saying, “I have to hear everybody”, and then returns to the beginning of the task.

3. If a student responds either before or too long after the signal...

- Teacher corrects by saying, “I need everybody to respond on my signal”, and returns to the beginning of the task.
- Alternatives:
 - “You have to wait until I signal. Let’s try it again.”
 - “You have to answer as soon as I signal.”

Specific Corrections

- Vary depending on the specific response errors.
- Correction procedures are presented in the teacher's presentation book under the exercise for which they apply.

Statement Corrections

All statement corrections start with “My turn” and end with “starting over”

Error Correction Template:

- Model: “My turn”
- Lead: “Say it with me”
- Test: “Your turn by yourself”
- Verify: “Yes, _____”
- Starting Over: Start at beginning of task

Correcting Alternative Responding

Used when student responds with correct but alternative response (different from response on presentation book).

- Teacher indicates response is correct by saying, “right, some people call this _____, but it is also called a _____. Let’s use _____.”
- This is important for consistency across students and on future lessons.

Correct but Inappropriate Responding

- Teacher immediately stops the students and follows this sequence:
- Models an acceptable way of responding (Example: “I can say that sentence the nice way. Listen. I am touching my head.”)
- Leads students through response (“Let’s all say that sentence the nice way”)
- Tests students (“Let’s hear you say that sentence the nice way all by yourselves”).

Motivation

Important Considerations on Motivation and Reinforcement:

- Tell student the goal
- Use specific praise
- Don't spend a great deal of time in reinforcement...reinforce quick and move on.
- Challenge the student
- Use tangible reinforcers if necessary...Check for MOTIVATION!
- Don't forget differential reinforcement and student's VR applies here too!!
- Reinforce only when student performs according to acceptable standards.

Goal for DI :Criteria for Mastery

All students responding correctly on signal in the scripts original context.

Monitoring Progress

Assessment Tests

- DI programs are designed to give teachers a complete, self contained system for monitoring student performance.
- They include curriculum-based Mastery Tests .
- These tests, which are given to students either individually or in groups after specified lessons have been completed, measure specific skills or concepts that have been taught during preceding lessons.

83

Data Collection for DI

- Graph lessons mastered
- Consider graphing mastery test in a different color
- If you need further detailed data, consider using a detailed response data sheet for each task.

Student Readiness Skills for DI

Pre-requisite skills

- Complete or mostly complete VB-MAPP (i.e., 4 year old language level).
- Tacting parts and features of objects
- Tacting adjectives
- Tacting by class
- Tacting yes and no
- Tacting two-component labels (noun verb)
- Tacting two-component labels (noun adjective)
- Uses carrier phrase when labeling nouns with verbs or adjectives ■
- Beginning to label prepositions
- Beginning to label pronouns
- Beginning to use appropriate autoclitic phrases/sentence structure
- With some learner's it may be beneficial to start the program prior to completing the VB-MAPP in order to teach some of the more complicated Level 3 skills using the DI curricula.

Language for Learning: Who is it for?

- Five and six year olds in Kindergarten and first grade with less than adequate language knowledge and skill for their age.
- Four year old children in preschool programs.
- Primary age children in bilingual and ESL programs
- Primary age children in Title I and Special Education programs
- Students in speech correction and language classes.

Language for Learning Content

- Actions
- Descriptions of objects
- Information and background knowledge
- Instructional words and problem-solving concepts
- Classification
- Problem-solving strategies and applications

Language for Learning: Pre-requisites

- Echo words/phrases with accuracy
- Discriminate and Tact many items and actions
- Respond to simple yes/no questions
- Perform simple actions on command
- Describe objects (parts/features)
- Respond to name
- Basic prepositions

Language for Thinking

- Intended for children who are older or have higher skills than those placed in *Language for Learning*.
- Children who have completed *Language for Learning*.
- First and Second graders with less than adequate language knowledge and skill for their age and have trouble comprehending what they read.
- Older children in bilingual and ESL programs
- Primary age children in Title I and Special Education programs
- Students in speech correction and language classes.

Language for Thinking Content

- Information and background knowledge
- Reasoning and critical thinking
- Vocabulary development
- Observing and describing
- Comprehension concepts
- Interpreting graphic displays

Language for Writing

- Second through fifth graders who have completed *Language for Learning* and *Language for Thinking*.
- Students placed in program should be reading and writing at the end of second grade or beginning of third grade level and have adequate knowledge of basic spoken English.

Pre-Requisite Skills for Reading Mastery

- Echo sounds/words
- Imitate prosody...speed (fast and slow)
- Imitate prosody...duration (sustain a sound for about 3 seconds)
- Follow simple instructions
- Ideally, should have completed at least first 40 lessons of Language for learning or demonstrate equivalent skills

Pre-Requisite Skills for Distar Math

- Echo words/phrases
- Respond to simple yes/no questions
- Respond to “Stop”
- Rote count
- Match-to-sample
- Replicate patterns/sequences
- Prepositions

So what do I teach if he/she is not ready?

- Start with attending response (“show me ready”):
 - Ready hands (hands folded on lap)
 - Seated in chair
 - Feet on floor
 - Body and eye gaze oriented toward teacher
- Teach first in imitation, then transfer to listener response

Other critical skills:

- Choral/unison: Students’ ability to respond along with others in a group setting (responding on signal).
- Individual Responding: Student’s ability to respond when called on in a group setting.
- Waiting for others individual responses: Student’s ability to remain quiet and attentive when it is another student’s individual turn to respond.

“The most important factor in predicting success is not innate talent or intelligence, but the willingness to work hard for extended periods of time.”

(Roe, 1953)

DI Video Examples

<http://www.adihome.org>

References

- Adams, G. L., & Engelmann, S. (1996). *Research on Direct Instruction: 25 years beyond DISTAR*. Seattle, WA: Educational Achievement Systems.
- American Federation of Teachers. (1999). *Building on the Best, Learning from What Works: Five Promising Remedial Reading Intervention Programs*. Washington, DC
- Becker, W.C. (1971). *Parents as Teachers*. Champaign, IL: Research Press.
- Brophy, J., & Good, T. (1986). Teacher behavior and student achievement: *Third handbook of research on teaching* (pp. 328-375). New York: Macmillan.
- Carnine, D. (1991). Curricular interventions for teaching higher order thinking to all students: Introduction to the special series. *Journal of Learning Disabilities*, 24, 261-269.
- Darch, C., & Simpson, R. G. (1990). Effectiveness of visual imagery versus rule-based strategies in teaching spelling to learning disabled students. *Research in Rural Education*, 7 (1), 61-70.
- Duran, E. (1982). Hispanic children can be taught: Or which teaching method is most effective. *Teaching and Learning Review*, 2, 4-6.
- Engelmann, S. (1999). *Student-program alignment and teaching to mastery*. Paper presented at the 25th annual National Direct Instruction Conference, Eugene, OR.
- Engelmann, S., & Carnine, D. (1982). *Theory of Instruction: Principals and Applications*. New York: Irvington.
- Flores, M. M., & Ganz, J. B. (2007). Effectiveness of direct instruction for teaching statement inference, use of facts, and analogies to students with developmental disabilities and related delays. *Focus on Autism and Other Developmental Disabilities*, 22, 244-251.

References

- Ganz, J.B., & Flores, M.M. (2009). The effectiveness of Direct Instruction for teaching language to children with Autism Spectrum Disorders: Identifying materials. *Journal of Autism and Developmental Disorders*, 39, 75-83.
- Heward, W.L. (2013). *Quality Educational Practices: Students with Higher Functioning Levels of Autism Spectrum Disorders: Session 2*. Retrived from https://http://www.pattan.net/Videos/Browse/Single/?code_name=quality_educational_practices_students1
- Heward, W. L. (2000). What is Direct Instruction? In W. L. Heward, *Exceptional Children: An Introduction to Special Education* (6th ed.) (pp. 272-273). Upper Saddle River, NJ: Merrill/Prentice Hall
- Marchand-Martella, N.E., Slocum, T.A., & Martella, R.C. (2004). *Introduction to Direct Instruction*. Pearson Education Inc.
- Martella, R.C., & Nelson, J.R. (2003). Managing Classroom Behavior. *Journal of Direct Instruction*, Vol. 3, No. 2, pp. 139-165.
- McKenzie, M. A., Marchand-Martella, N. E., Moore, M. E., & Martella, R. C. (2004). Teaching basic math skills to preschoolers using connecting math concepts level k. *Journal of Direct Instruction*, 4, 85-94.
- Riepl, J., Marchand-Martella, N., & Martella, R. (2008). The effects of Reading Mastery Plus on the beginning reading skills of students with intellectual and developmental disabilities. *Journal of Direct Instruction*, 8, 29-39.

Contact Information

www.pattan.net

Ashley Harned, M.Ed.
aharned@pattan.net
717-901-2277



Commonwealth of Pennsylvania

Tom Wolf, Governor