


Teaching Writing to Students with Autism and Intellectual Disabilities

Robert Pennington PhD, BCBA-D
University of Louisville



Objectives

- Describe the complexities of teaching writing
- Identify a general curriculum for assessing and teaching writing skills
- Why is copying to text and important skill?
- What is transcription?
- Describe methods for teaching
 - spelling
 - More complex writing

Activity

- On a piece of paper write a brief persuasive piece about why Dr. Pennington should give you the super teacher award.

A Case for Teaching Writing

- May allow us to establish communication repertoires in non-speaking individuals
 - Consider recent technological advancements
- Societal shifts toward electronic medium for social interactions
 - Context for learning new social skills
 - Writing may have therapeutic benefits



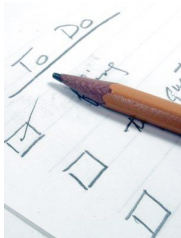
A Case for Teaching Writing

- Demonstration of knowledge in educational contexts
 - Core content instruction is communication instruction
- Writing skills are required in most vocational contexts



A Case for Teaching Writing

- Writing can serve as a tool for organizing our lives



So Writing is Important

- How do I teach it?



What does the research tell us

- Established Research-based practices for struggling writers and person with high-incidence disabilities (Graham, Harris, & Larson, 2001; Mason & Graham 2008)
- What do you think they are?

General Strategies for Struggling Writers

- Posting of literacy materials in the classroom environment,
- Daily writing across content areas,
- Use of motivational strategies,
- Teacher-student conferencing,
- Predictable writing routines,
- Overt teacher modeling

General Strategies for Struggling Writers

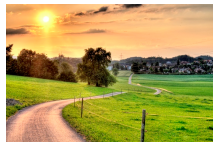
- Cooperative arrangements,
- Instruction across a broad range of skills,
- The use of reading to support writing development
- Opportunities for students to self regulate their behavior during writing,
- Frequent assessment, and
- Conferencing with parents

What does the research look like for kids with ID?



A Proposed Path

- A behavioral understanding of language may help us determine where to start?
- Helps us frame this complex endeavor in the contexts of observable variables



A Proposed Path

- Consider the behavioral approach to teaching language
- Generally, we start by teaching students to use language to mand (request/protest)
- This helps the learners use communication skills to control their environment, it establishes the importance of these skills

A Proposed Path

- So maybe we start by teaching children to write or exchange words to access reinforcers
- Consider a discrete trial format, where students are required to hand a word, or write a word to a communicative partner to access a reinforcer.



Remember, consider motivation

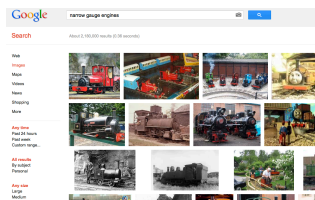
- Writing about a car, when the child does not want a car may not necessarily establish a requesting function

During this phase

- You may use a variety of strategies
 - Stimulus fading
 - Shaping
 - Response prompting
 - chaining
- What might these look like?

An idea for some children

- Teach a child to copy text to access information on preferred items



A Proposed Path

- Copying a text
 - Similar to an echoic response, these operants can be used to prompt other responses
 - See-write relation
- Transcription
 - Spoken stimulus evokes a written, finger-spelled, or typed response
 - Point to point correspondence
 - Hear-write relation

Teaching Handwriting

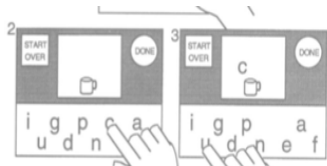
- **Do not** let handwriting serve as a barrier
- Reinforce writing attempts
- Pair tool usage with reinforcement
- Students should be sitting comfortably, good trunk support

Readiness

- Cutting shapes with scissors
- Use smartboard/chalkboard drawing to strengthen arms, hands, and fingers
- Practice drawing circle shapes (balloons, apples, faces)
- Fine motor activities (clay, small item manipulations)
- Dot to dot, tracing, stencils

A proposed path

- Teaching Spelling
 - Copy cover methods (Schlosser et al., 1998; 2004)
 - Match to Sample (Stromer et al., 1997)
 - Backward chaining

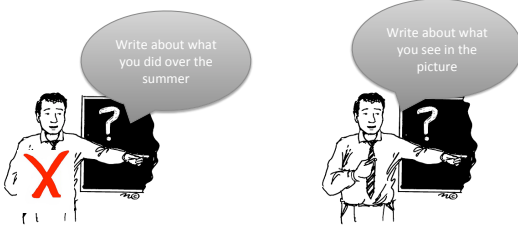


Spell it

- Nicoise
- Teutonic
- Aerial
- Amalgam
- Acquiesce

A Proposed Path

- Then we teach students to write about stimuli in their environment, (tact)



What is it?



A Proposed Path

- Once students are able to write words in the presence of pictures, we can start with simple sentences
- Start with the rule, "a simple sentence names something or someone and then tells more"

Kameenui & Simmons, 1990

Start with sentence completion tasks

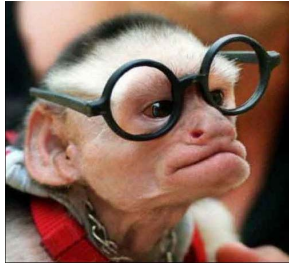
- The man _____
 - Flips
 - Eats
 - Sees



Start with sentence completion tasks

- Gradually fade word banks, and use response prompting strategies
 - This where *copying to text* and *transcription* comes in handy!
- Use autoclitic frames/sentence starters
 - I see
 - I want

SD- Write about the picture



I see a _____

Consider complex discriminations

- I see dog
- I see "big dog"
- I see "big red dog"





Simple Sentence Phase

- During this phase, teacher should start shaping the use of mechanics.
 - Capitalizing first word in sentences, using ending punctuation
 - Building in as a requirement for reinforcement
 - Self Monitoring

Writing Multiple Sentences about a Picture

The farmer has a wheelbarrow
The wheelbarrow is red
The farmer gets vegetables



Writing Sentences about Multiple Pictures

- Teaching story telling
 - Development of cohesion



The man was reading. The man got hungry. The cookies were gone

Writer Immersion (Greer & Ross)

- Establishes functional use of written messages
- Communication occurs using only the written word
- Seek and find activities
- What else

Our Recent Research on Writing

- So our first three studies involved the use of computer assisted instruction or selection-based response topography



CAI and Simultaneous Prompting

- In these studies, we combined systematic instruction and assistive technology to increase the number of sentences used during story writing tasks.
- Why, because story telling is a valuable skill

Study one

Clicker5™ (www.Cricksoft.com)

Intervention

- Daily probes were conducted prior to intervention
- During instruction
 - Directive: “Let’s write a story together”
 - Used simultaneous prompting to construct four sentence stories
 - Present each 3 different stories during training
 - Vocal praise following each sentence

Results: Generalization

	Number of words		Number of sentences	
	Pre test	Post test	Pre test	Post test
<i>Paul</i> Novel Template	0	13	0	2
Written response	7	16	2 (unrelated)	4
Vocal response	7	16	1	4
<i>Caleb</i> Novel Template	0	16	0	4
Written response	0	4	0	0
Vocal response	1	41	0	6

“fable, seventeen, My name is a Fat” → “There was a king, He lived in a castle, He saved a princess, He got married”.

Study 2

- Pixwriter™
- www.slatersoftware.com

The screenshot shows a software window with a large white drawing area at the top. Below it is a grid of words. The first row contains: apples, the, zoo, bananas, got. The second row contains: sick, jungle, sleepy, cookies, ate, in. The third row contains: lived, tree, 10, monkey, dizzy. To the right of the grid is a drawing toolbar with icons for drawing, erasing, and deleting.

Results: Generalization

	Pre test	Post test
Vocal response	3 word/0 sentences	12 words/3 sentences
Handwritten response	1 word/0 sentences	13 words/3 sentences

Limitations

Restrictive measures
 Reading ability?
 Comprehension?

Study 3:

		saw		the		frightened	earth	planet	
robot		went		a		rocket	space	excited	
		was		to		lions	happy		. , ? !

		saw		the		happy			
robot		went		a		rocket			
		was		to		earth			. , ? !

Dependent variables

- **Dependent Variables**
 - Number of sentences constructed + cohesion
 - Number of story elements used
 - Percent correct of comprehension questions
 - Number of sight words read before and after training
 - Generalization (vocal, handwriting, untrained template)
 - Number of sentences used
 - Number of words used

General Findings

- Students wrote a combined 53 stories
- All students acquired story writing responses
- All students acquired new sight words
- All student increases from 0 to 5 story elements
- Students demonstrated 100% comprehension
- All students demonstrated some generalization across response topographies

Results: Jacob

Little People lived
in the Zoo
Saw Zoo+Ruin
Go To home
Was HAPPY

What have we learned?

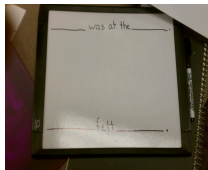
- SP + CAI was generally effective for these students
- Student do not need pictures on the software to acquire target skills
- Students do not need to know all sight words prior to instruction but may do better if they do
- Students may generalize to other response forms but may have a hard time generalizing across templates

Next: A Planning Package

- 2 students with ID/ASD
- Dependent Variables
 - Sentences
 - Story-elements
- Independent Variable
 - System of least prompts
 - Template

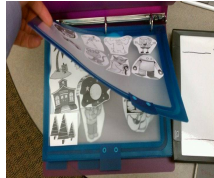
Instruction

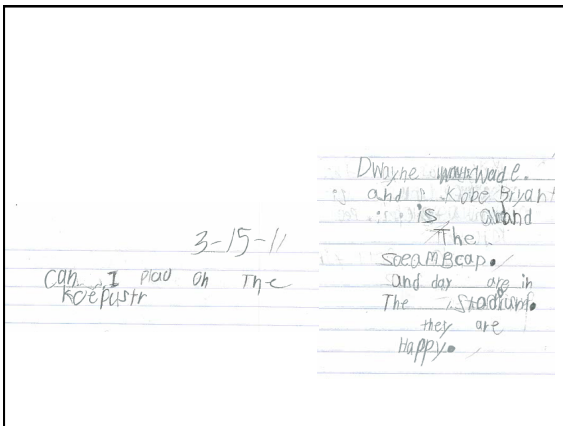
- Let's work on writing a story today.
 - First, we need a character
 - (1)What do you want to write about?
 - Now we need a locale,
 - Now we need an action
 - What did he do?
 - Now, we need an emotion
 - How did your character feel



SLP prompt hierarchy

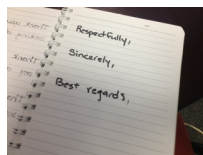
- Independent
- Presentation of "idea" binder
- Prompted selection





Study 5: Resume Cover Letters

- 3 high school participants with ID
- Dependent variables
 - # number of cover letter components
- Independent Variable
 - Modeling
 - Revision + Prompting
 - Self graphing



Intervention

- Daily probes
- During instruction,
 - Student used checklist to evaluate whether component each component was included during probe
 - If components were missing, the teacher initiated prompt sequence
 - Student graphed independent correct responses

Results

- Student acquired target skills
- Student generalized skills to untrained jobs
- Student maintained responses

Current Projects



Peers & Personal Narratives



Additional tools

• VB-MAPP assessment

Writes 12-24 Independently traces within 1/4 inch of the lines of 4 different geometrical shapes (e.g., circle, square, triangle, rectangle, star) (T)

Objective: To determine if the child can control the writing instrument enough to trace specific geometric shapes within a defined boundary.

Materials: Any type of writing instrument (e.g., crayon, marker, chalk, pencil), and related surface (e.g., paper, white board, or Magna Doodle).

Example: The child will trace a 3-inch circle and stay within 1/4 inch of the sample.

1 point score: Give the child 1 point if he independently traces within 1/4 inch of 4 different geometrical shapes, shapes with several angles (e.g., a star) may be difficult but give the child full credit if he is close.

1/2 point score: Give the child 1/2 point if he independently traces within 1/2 inch of 4 different geometrical shapes.

Writes 13-24 Copies 10 letters or numbers legibly (T)

Objective: To determine if the child can copy specific letters and numbers.

Materials: Any type of writing instrument (e.g., crayon, marker, chalk, pencil), and related surface (e.g., paper, white board, or Magna Doodle).

Example: The child will copy the letters A, B, and C, and the numbers 1 and 2.

1 point score: Give the child 1 point if he copies 10 letters or numbers of any size legibly (i.e., an observer can identify the letter or number without using the model).

1/2 point score: Give the child 1/2 point if he copies 5 letters or numbers of any size legibly.

Writes 14-24 Legibly spells and writes his own name without copying (T)

Objective: To determine if the child can write his own name, and that it is legible by a second party.

Materials: Any type of writing instrument (e.g., crayon, marker, chalk, pencil), and related surface (e.g., paper, white board, or Magna Doodle).

Example: The child will write his name on a lined piece of paper.

1 point score: Give the child 1 point if he independently and legibly writes and correctly spells his own name. ("legible" does not need to be strict, this will come with practice).

1/2 point score: Give the child 1/2 point if he approximates the letters in his name, but they are not clear enough to read, and/or he misspells his name.
