



Connecting Writing to the Science of Reading: Foundations for Developing Writing in Young Learners

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Meet Your Presenter



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Literacy Specialist



What You'll Learn

- The developmental connections between reading and writing in the early literacy time period
- Assessment strategies to identify levels of writing skill development
- How to implement research-based instruction techniques to facilitate writing as well as enhance other language and literacy skills



Dr FVC F
FrE
Mi TF
AL DF
Km VST
hm FE LV

Dear Tooth
Fairy
My tooth
Fell off
Come visit
Me Love...





TOPICS



1

- Foundation skills needed for becoming a writer



2

- Developmental sequences and assessment processes



3

- Instruction and intervention strategies and routines

Instructional Strategies

- Focus on **Preview** first.
- Handwriting and spelling development provide valuable instructional indicators for the next steps in their learning.

(Beringer, 2009; Moats, 2012)



1

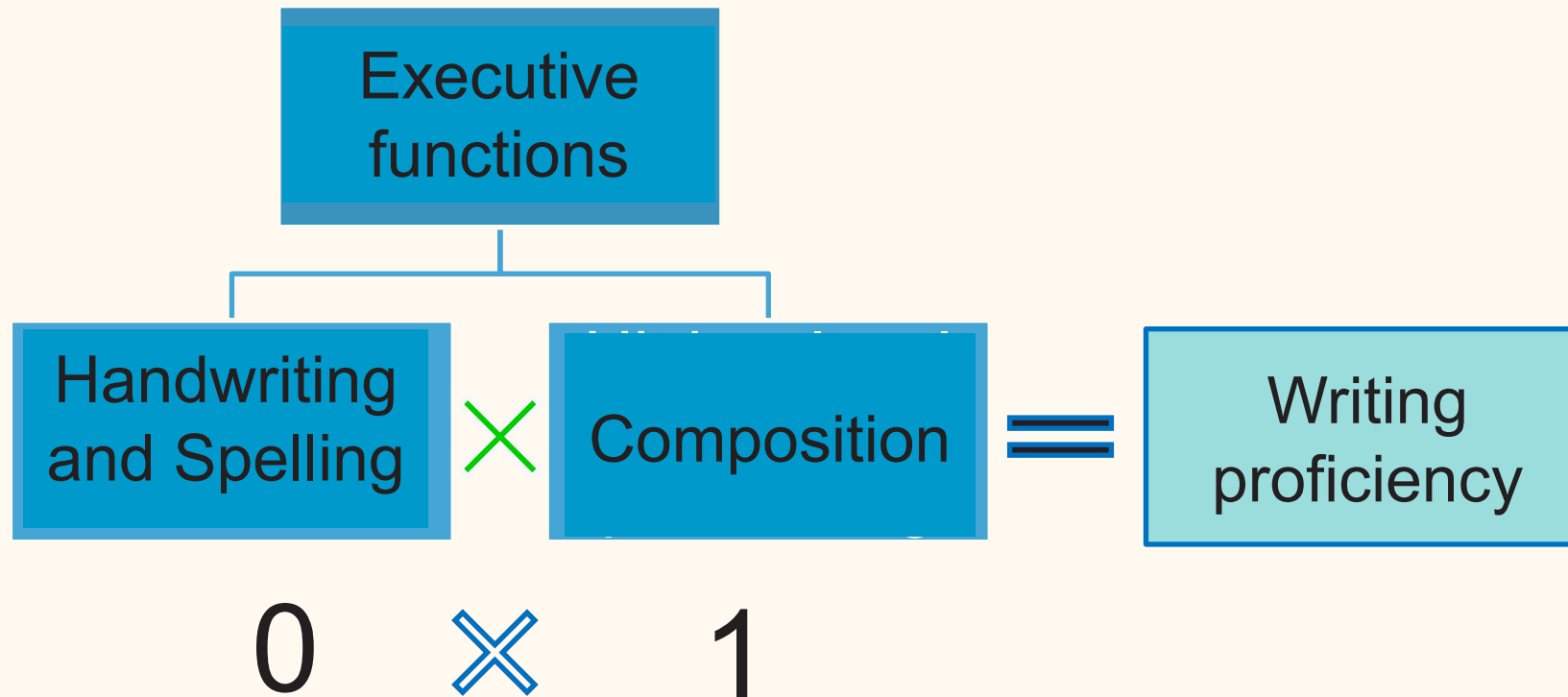
Critical Foundation Skills

In the big picture...

- Transcription skills
 - Handwriting
 - Spelling
- Composition skills
 - Words to sentences, paragraphs, and essays
 - Creating, organizing, elaborating ideas
 - Editing, revising, sharing
- Executive functioning skills



Simple View of Writing



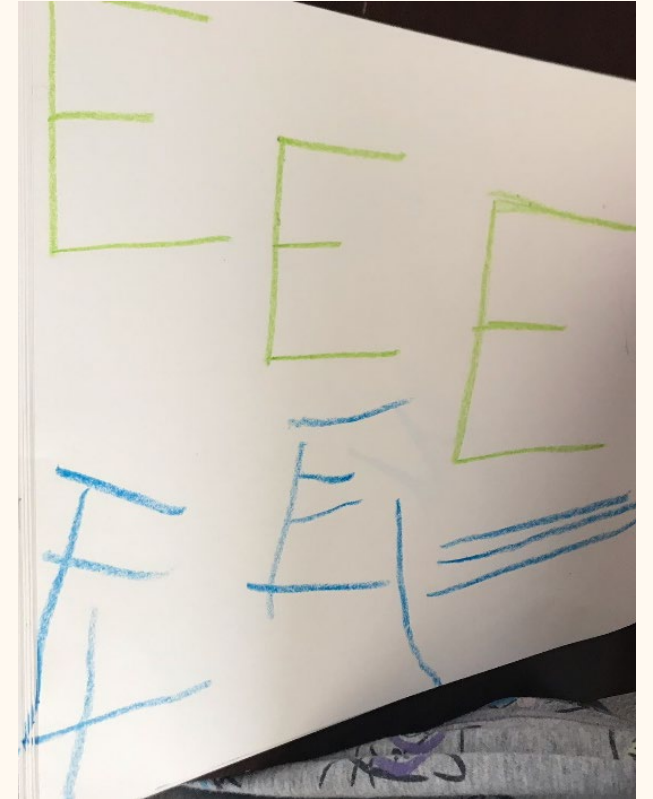
(Berninger & Wolf, 2016; Juel et al., 1986)



Handwriting and Letter Learning

1. Handwriting (printing for young children) is important for letter understanding.
2. Children learn from their productions of a lot of different versions of the same letter.
3. For children who have difficulty printing letters, seeing and tracing letters is helpful for letter categorization.

(James 2017)



Why Handwriting Instruction

- Learning to form letters by hand improves letter learning and contributes to better reading and spelling.
- Letter writing trains the orthographic loop and serial organization, which supports spelling and composing.
- Automatic letter writing promotes better composing—both amount written and quality of writing.

(Berninger, 2012; Graham, Harris, & Fink, 2000; James, 2017; Truckenmiller & Chandler, 2023)



Spelling



- Explicit spelling instruction:
 - in the early grades is linked to better composition in the later grades. (Berninger & Fayol, 2008)
 - is linked to greater phonological awareness and reading proficiency (Santangelo & Graham, 2011)



Oral Language Skills

- **Sentence structure** – Sounds form into words; words combine into sentences; sentences group into narratives and descriptions (paragraphs) and become more elaborated.
- **Vocabulary** – one must be able to spontaneously recall words and have a clear understanding of word meaning and usage.
(Corona, Spangenberg, & Venet, 1998)

**“What you think, you can say.
What you say, you can write.”**



Executive Functioning Skills

- EF includes a wide range of skills such as self-regulation, focused attention, memory, inhibitory control, mental shifting during planning, reviewing, and revising.

(Berninger & Winn, 2006)

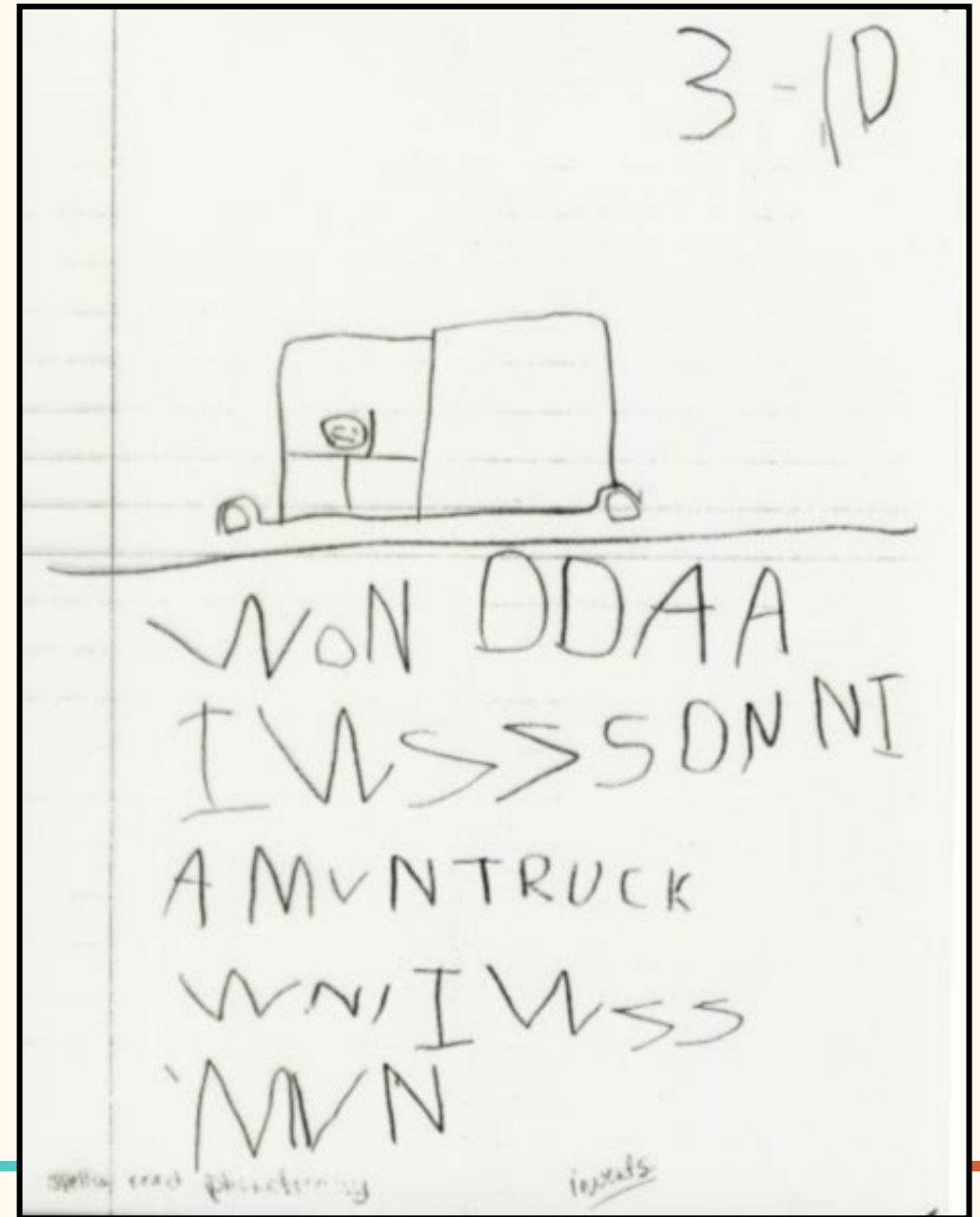
- ✓ Explicit instructional cueing helps to develop self-regulation leading to other EF skills.

(McCloskey & Perkins, 2012)



Kindergartener

One day
I was sitting in
a moving truck
when I was
moving.





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2

Developmental sequences and assessment strategies of writing skills

- Drawing foundations and motor development
- Word-reading and spelling development
- Composition development
- Grade level assessment task recommendations



Motor skills needed for writing

- Muscle strength to hold writing tool
- Fine motor control
- Kinesthetic awareness
- Rhythmic flow of movement
- Gated movement dragging hand across the page
- Directionality

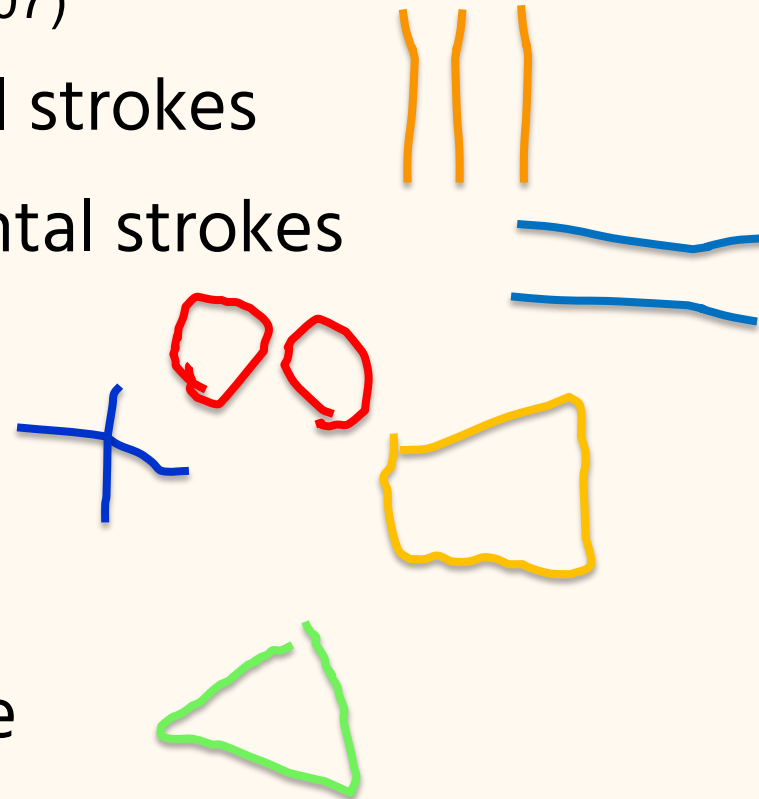
(Graham & Weintraub, 1996)



Foundations of Drawing Development

Child learn to print letters by first imitating geometric shapes beginning with: (Feder & Majnemer, 2007)

- 2 years vertical strokes
- 2 ½ years horizontal strokes
- 3 years circles
- 4 years cross
- 5 years square
- 5 ½ years triangle



Letter Shape Characteristics

- Straight i l
- Curved C c J j O o S s U
- Straight Intersections E F H I L T t
- Curved Intersections B D G P Q a b d e f g h m n p q r u
- Diagonal Intersections A K M N R* V W X Y Z k v w x y z



Identify Pencil Grip

- Proper pencil grip should use a tripod grip.
 - Pencil should rest on first joint of middle finger with thumb and index finger holding pencil in place and held at a 45-degree angle to the page.
 - Recommended pencils should be:
 - #2 lead which require less pressure to write and don't break as easily
 - No eraser
- (Berninger & Wolf, 2016)



How does this pencil grip look?



What kind of writing tools should be available?



Manuscript, then Cursive

- Focus on a single style of writing during a given school year.
- Focus on legibility in the first year of instruction.
- In the second year of instruction, focus on legibility and automaticity.
- Cursive should be introduced in third grade.
- Periodic tune-ups should review both styles.

(Berninger & Wolf, 2016)



What is your automaticity?

- Take out a blank piece of paper and writing tool.
- Check your own pencil grip.
- When I say go, print the lowercase letters in a row from **a** to **z**.



00 : 00 : 00

Change Clock Type

Digital

Duration:

00

00

30

TimeUp Reminder (Optional):

--

--

--

Choose Sound Effect

Tick

Choose TimeUp Sound

Alarm

Enable Count Up Combine With Bar Clock

Start

Pause

Stop

Reset

- How long did it take you?



Letter Writing Automaticity Guidelines

- Make sure to emphasize accuracy and legibility BEFORE fluency.
- 3rd graders should produce alphabet in less than a minute.
- Adults should fluently write the alphabet in 20 to 30 seconds.

(Berninger & Richards, 2002)



2

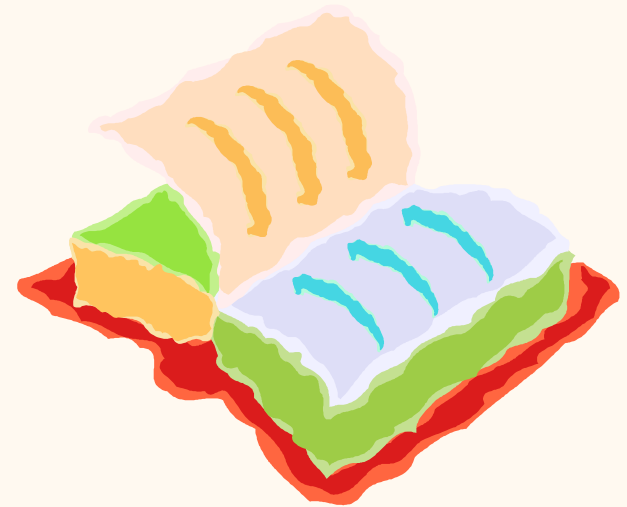
Developmental sequences and assessment strategies of writing skills

- Drawing foundations and motor development
- Word-reading and spelling development
- Composition development
- Grade level assessment task recommendations









Phases of Early Word-Reading and Spelling Development

- Prealphabetic
 - incidental visual cues
- Partial Alphabetic
 - letter knowledge
 - partial phoneme awareness
- Full Alphabetic
 - early sight-word learning
 - phoneme-grapheme correspondence
 - complete phoneme awareness
- Consolidated Alphabetic (Ehri, 2014)



Developmental Phases and Levels for Writing

	0. No distinction between drawing and writing	
Prealphabetic	1. Pre-conventional	
	Scribble	
	Mock Letter	
	Random Letter Strings	
Partial alphabetic	2. Semi-phonetic	
Full alphabetic	3. Phonetic	
Consolidated	4. Conventional	



Writing Assessment Tasks

(Berninger & Wolf, 2016)

- **Preschool Tasks:**

- level of writing development (scribble to semiphonetic)
- own name writing
- letter name knowledge
- phonological awareness

- **Kindergarten Tasks:**

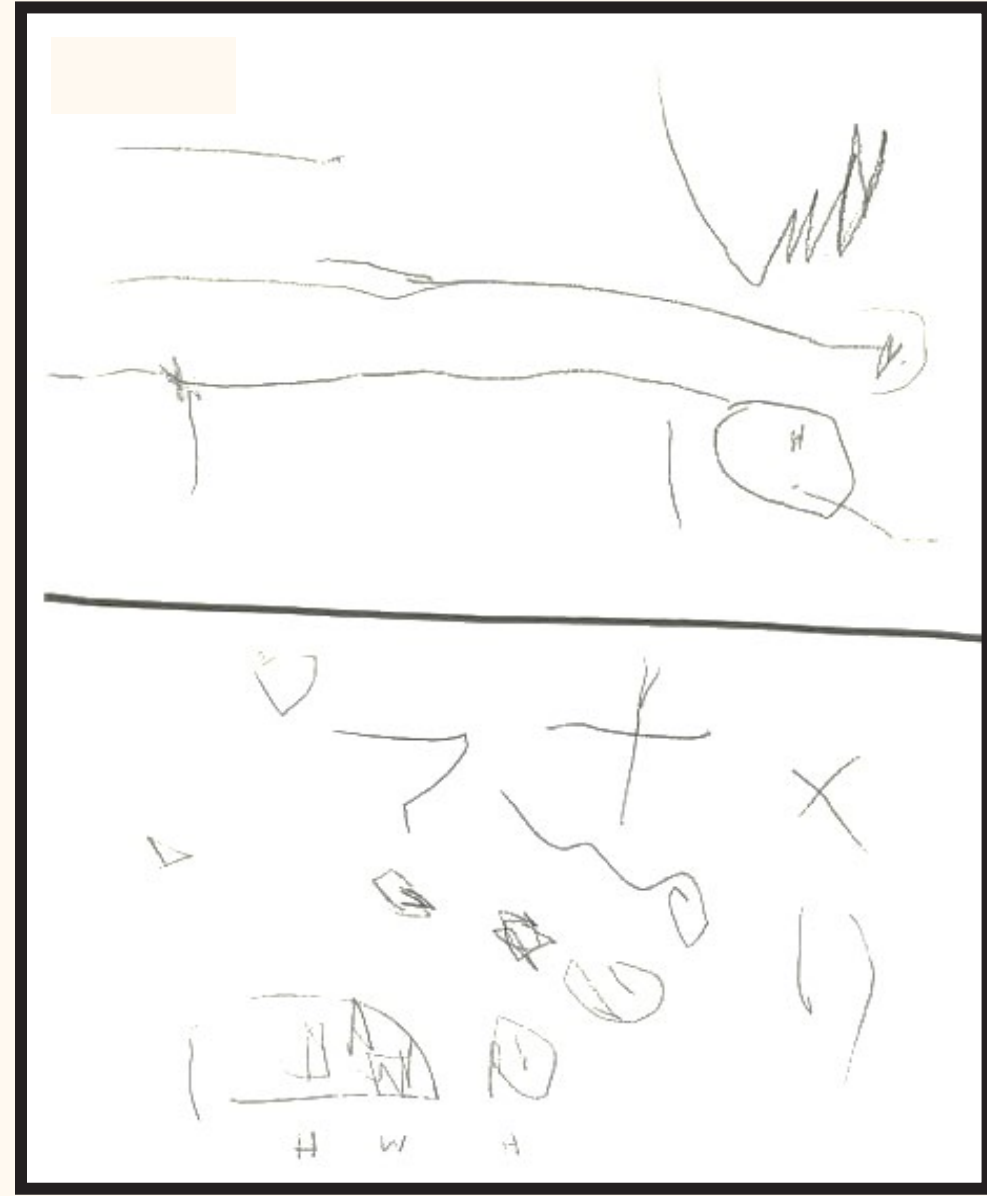
- level of writing development (random letters to phonetic)
- letter name and sound knowledge
- letter writing
- phonological awareness
- alphabetic principle in CVC word reading and spelling
- sentence writing



4-Year-Old

- Handwriting
- Spelling
- Composition


The lizard
bited the
snake.



Pre-k 5-Year-Old

- Handwriting
- Spelling
- Composition

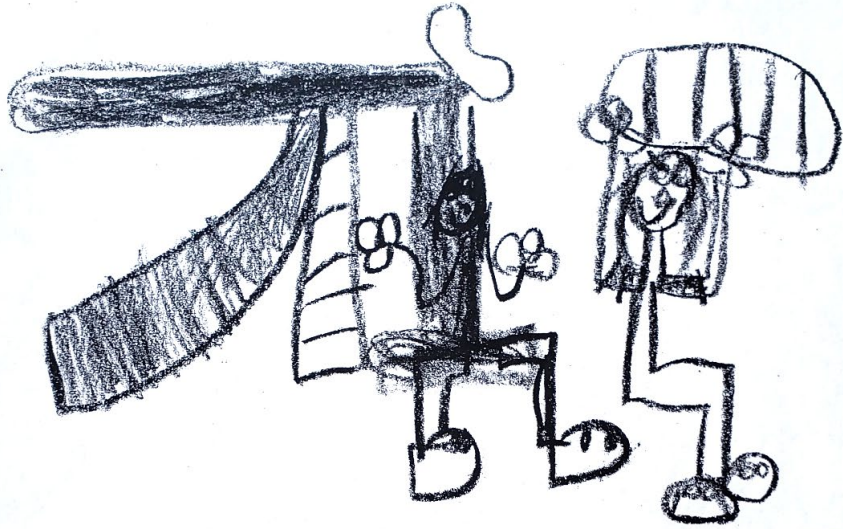
“Once the dog licks me in the morning. It surprises me.”



WANTS THE DOG LICKS ME
IN THE MORNING
IT SURPRISES ME

Name: _____ Date: _____

4-20



I WENT TO THE PARK
AND I DID THE MONKEY BARS
AND MY FRIEND CAME.

Kinder

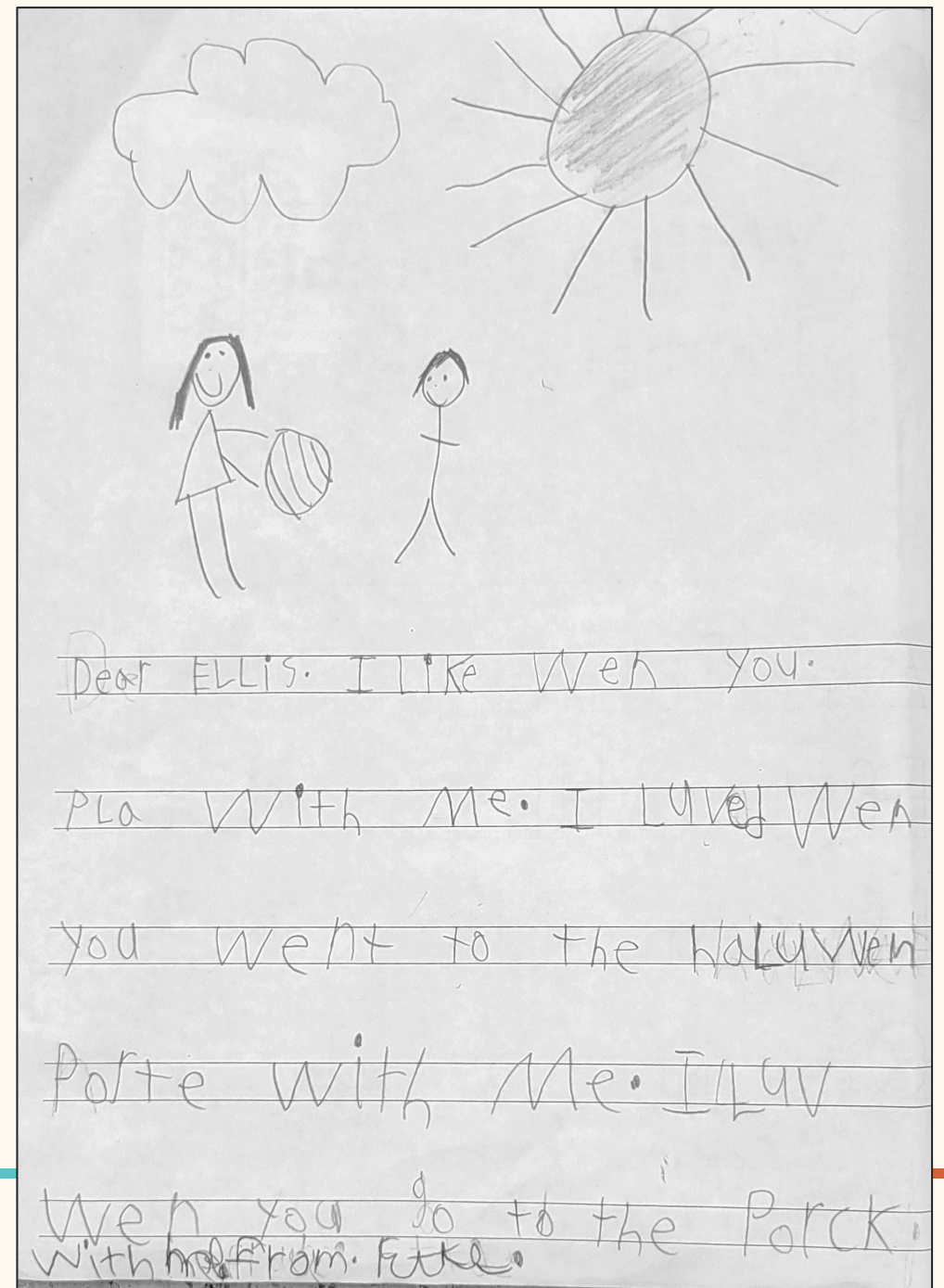
- Handwriting
- Spelling
- Composition

I went to the park
and I did the monkey bars
and my friend came.

(1st grader)

Dear Ellis, I like when you play with me. I loved when you went to the Halloween party with me. I love when you go to the park with me. From Etta

- **Handwriting**
- **Spelling**
- **Composition**



Writing Assessment Tasks

(Berninger & Wolf, 2016)

- **Primary Grade Tasks:**
 - automaticity and accuracy of alphabet letter writing
 - accuracy and fluency of decoding and spelling of phonetic and high frequency words
 - phonological awareness
 - paragraph writing organization and content



Writing Assessment Tasks

(Berninger & Wolf, 2016)

- **Later Grade Tasks:**

- automaticity and legibility of handwriting
- phonological awareness
- accuracy and fluency of word reading and spelling (phonological and morphological)
- paragraph writing
- essay writing
- keyboarding





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Instructional strategies to develop foundational writing skills

- Handwriting strategies
- Spelling strategies
- Composition strategies



Instructional Strategies

- Focus on student's **content** first.
- Handwriting and spelling development provide valuable instructional indicators for the next steps in their learning.

(Beringer, 2009; Moats, 2012)



Teaching a functional pencil grip:



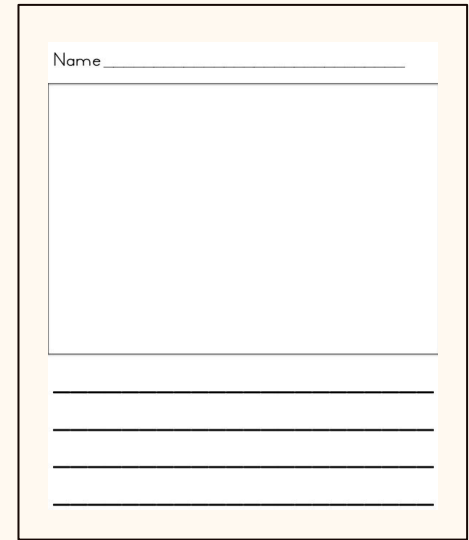
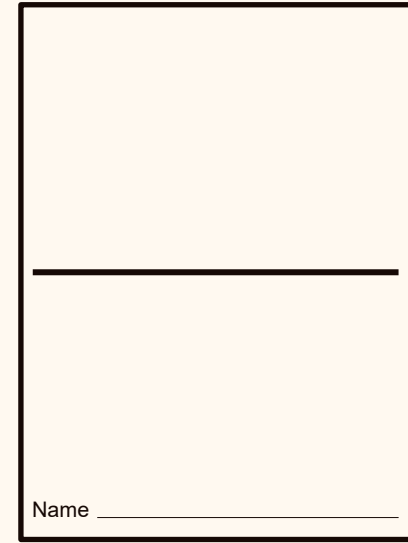
- Have students place their pencil on the desk with the point towards them.
- Tell them to “**pinch your pencil**” with their index finger and thumb where the point begins.
- Then tell them to “**lift your pencil.**” As they lift their pencils, it will fall back into the correct writing position and rest on the first joint of the middle finger.

(Berninger & Wolf, 2016)



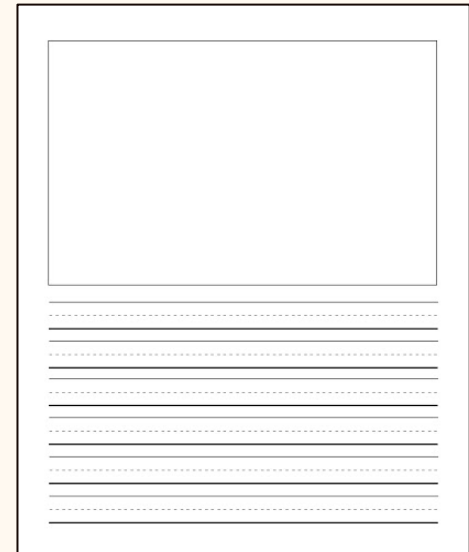
Paper Recommendations

Use paper that has space and lines appropriate for grade level.



- **Preschool:** paper with open space
- **Kindergarten – Grade 1:** use paper with resting lines and top lines that are solid and divided lines midway between solid lines.
 - This spacing supports their learning of the relative positioning of letter strokes that often differentiate letters from each other.

(Berninger & Wolf, 2016)



Letter Writing Instruction:



- Provide a visual plan with numbered arrow cues for forming the sequential strokes in each letter form;
- Include practice in tracing, copying letters, writing them from memory, and finding letters in the ordered alphabet series in long-term memory;
- Emphasize that letters should be both legible (recognized by others) and automatic (written effortlessly)

(Berninger, 2012, James, 2017)



How to Print Letters

A a B b C c D d

E e F f G g H h I i

J j K k L l M m N n

O o P p Q q R r

S s T t U u V v

W w X x Y y Z z



End Goal of Handwriting Instruction

Develop “hybrid” writers:

- Manuscript writing transfers to word reading.
- Cursive writing transfers to spelling and composition.
- Keyboarding helps with producing multiple drafts and revisions especially after students progress beyond hunting and pecking to touch typing

Writers often use a mix of cursive and manuscript or revert to manuscript.





Instructional strategies to develop foundational writing skills

- Handwriting strategies
- Spelling strategies
- Composition strategies



Invented Spelling Connections:

- Spelling is often referred to as a “window into the literacy mind” of a student. (Apel, Masterson, & Niessen, 2004)
- By using student’s invented spellings as a guide, teachers can differentiate efficient, effective instruction in phonics, spelling, and vocabulary. (Bear, Invernizzi, Templeton, & Johnston, 2004)



Invented Spelling Connections:

- Invented spellings are children's attempts to represent words in print, either spontaneously or self-directed. (Read, 1971)
- Children's invented spellings reflect their progression of phonological awareness, letter knowledge, and their understanding of print conventions.
(Bear & Templeton, 1998; Gentry & Gillet, 1993)



Research Findings on Invented Spelling in Kindergarten

- When teachers scaffolded children's invented spellings, kindergarten children gained stronger phonological awareness skills, better alphabet knowledge, and learned to read more words.
- Invented spelling practices did **NOT** interfere with correct spelling in subsequent grades.

(Martins & Silva, 2006; Ouellette & Sénéchal, 2008, Ouellette et al., 2013; Ouellette & Sénéchal, 2017).



Spelling is really “Word Study”

- Through active explorations, word study teaches students to examine words to discover the regularities, patterns, and conventions of English orthography needed to read and spell.
- Word study increases specific knowledge of words – the spelling and meaning of individual words.



Word Study

- encoding and decoding of words

Written language is a skill that requires knowledge across several areas including:

- phonemic awareness
- morphological awareness
- semantic awareness
- orthographic awareness
- mental orthographic images



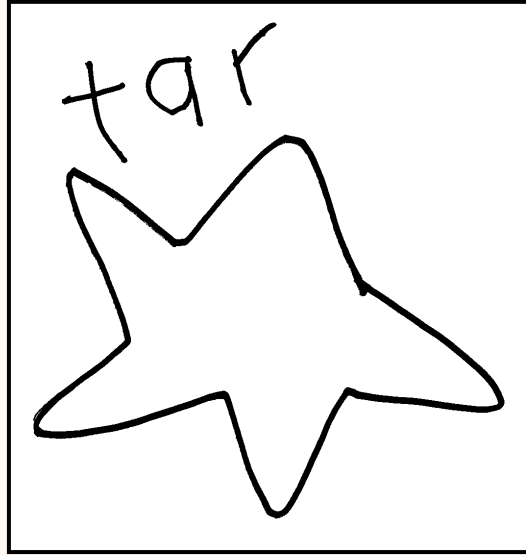
Word Study

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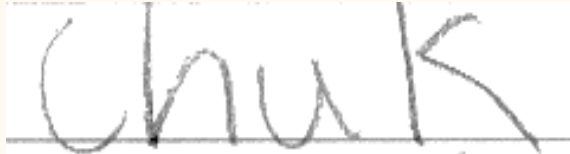
- phonemic awareness





Kindergartener

chunk



dream



2nd Grader

Word Study

- encoding and decoding of words

Written language is a skill that requires knowledge across several areas including:

- phonemic awareness
- morphological awareness





Preschooler: "Me goed to a park."

1st grader: "It's hard for me to rememerize."

2nd grader: "Children who lost their parents sometimes live in an orphanarium."



Morphologic Awareness

Kindergartener



Y. A. SDRDAYMY DAD
PLAYED SOCR.

Yesterday my Dad played soccer.

Name: _____ Date: _____

Word Study

- encoding and decoding of words

Written language is a skill that requires knowledge across several areas including:

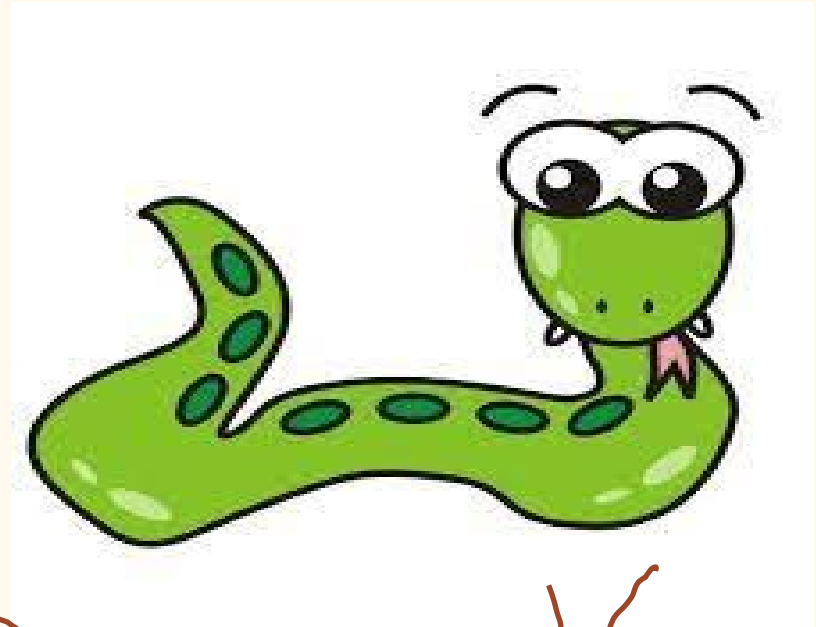
- phonemic awareness
- morphological awareness
- semantic awareness
- orthographic awareness
- mental orthographic images



Semantic
Awareness

Theiyr're

Mental
Orthographic
Images



Snake

Orthographic
Awareness

Spelling Instruction



- K- Grade 1 **encoding** (writing down letters that represent phonemes in words) and **decoding** (linking sounds to printed letters) should be practiced together in the beginning stages. (Moats & Hall, 2010)
 - Students should learn to read and spell the same words.
- Grade 2 and up – encoding and decoding should be separate but reinforcing as spelling is much more difficult than reading. (Joshi, et al., 2008-2009)



Early Spelling Strategies



- Have an alphabet strip available to aid in uncertain recall.

Have students:

- Recite the alphabet orally or sing the alphabet song to automaticity.
- Name the letter before or after another letter or one in between two other letters.
- Copy the words in alphabetical order
- Practice alphabetizing



Write the following words in **alphabetical order**
(the order they come in the alphabet)

A B C D E F G H I J K L M N O P Q R S T U V W X

~~apple~~

pumpkin

log

river

fox

pond

1. apple

2. ikmnpqu

3. gb

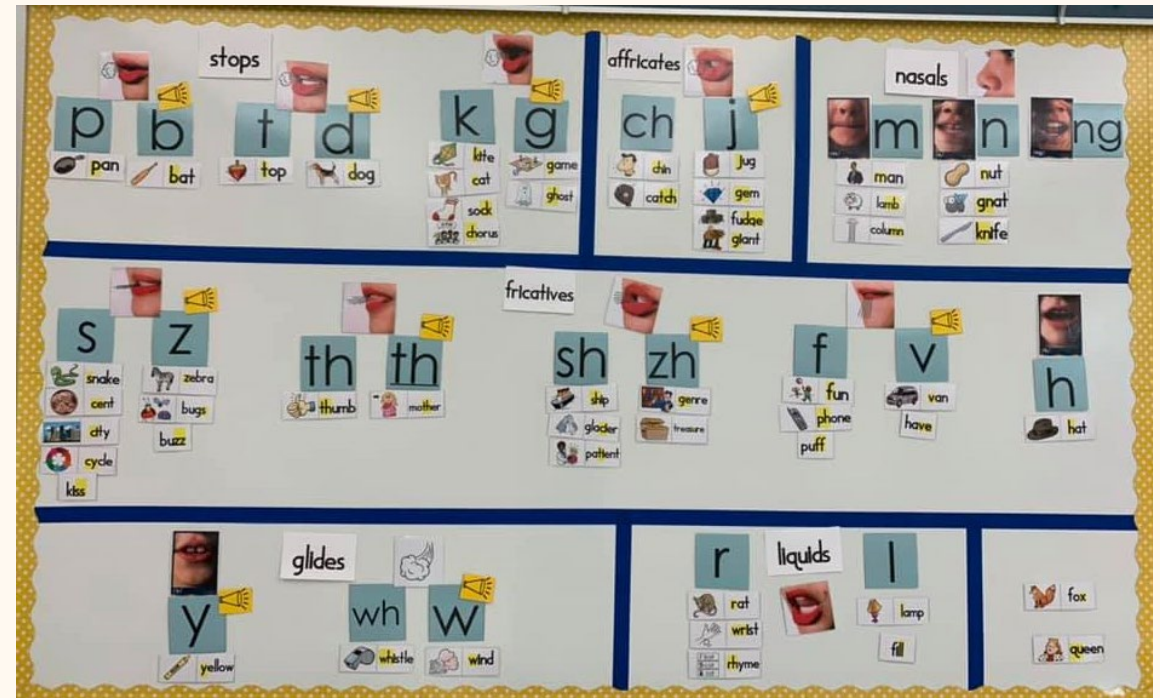
4. eirrv

5. fox

6. pnop

Sound Walls (Instead of Word Walls)

- Designed to teach letter-sound knowledge
- Set up according to the articulation of speech sounds
- Arranged moving from the front of your mouth to the back of the throat
- Attach phoneme (sound) to orthographic (spelling) patterns



(Dahlgren, 2017)



General Spelling Instruction Practices

- Use the same words for spelling and reading in K and Grade 1.
- Use frequent and distributed practice.
- Help students learn to analyze both speech and print.
- Use words in meaningful contexts.
- Teach proofreading and self-monitoring tasks.





Instructional strategies to develop foundational writing skills

- Handwriting strategies
- Spelling strategies
- Composition strategies



Writing Composition Skills

- Print conventions
 - **capitalization**
 - **punctuation**
 - **grammar**
 - **spelling**
- Language usage and style
- Ideas and content
- Organization



“What I think, I can say.”

Oral Language First

- Have students respond to questions using complete sentences.
- Have students practice combining short sentences into a longer, more complex sentence.
- Help students learn parts of speech (nouns, verbs, describing words).



Ask and Answer Questions about a Text



- Narratives

- Who are the characters? Who is the story about?

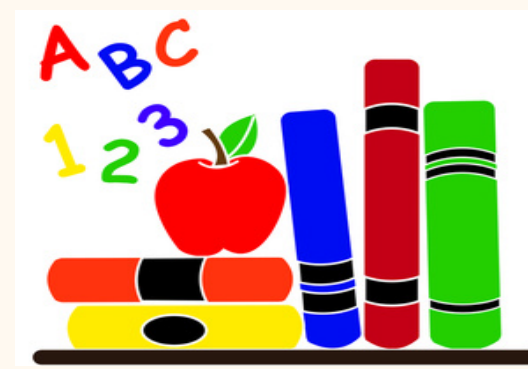
Have children answer in complete sentences.

- Where does the story take place? Where do the characters go?
- Why does the character do this? Why does the character feel this way?
- How would you retell the story? How would you describe the character?
How does the character solve the problem?

(Step Up To Writing, Grades K-2 Auman, 2016)



Ask and Answer Questions about a Text



- Informational

- What is the topic of the text? What information did you learn?
- Who is involved?
- When did this happen? When would you use this information?
- Where did this happen? Where would you see this in the world?
- Why is this topic important? Why did this happen?
- How would you describe this to someone else?

(Step Up To Writing, Grades K-2 Auman, 2016)



Creating Sentences:

Unscramble words to make a sentence

monsters I like

clown I a saw

chew dogs bones

eats bird a worms

the secret tell

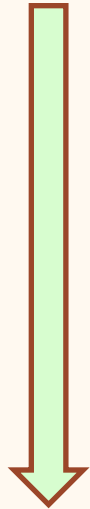
furry my is rabbit



Creating Sentences:

Combine shorter sentences into longer ones.

Easier
to
harder



Developmental Sequence of Conjunction Use:

- Sequence: and, both, then, when
- Causation: because, so
- Disjunction and Alternation: but, or, either/or, neither/nor, though
- Conditionality: unless, although, if, if/then, if only

(Moats, 2012)

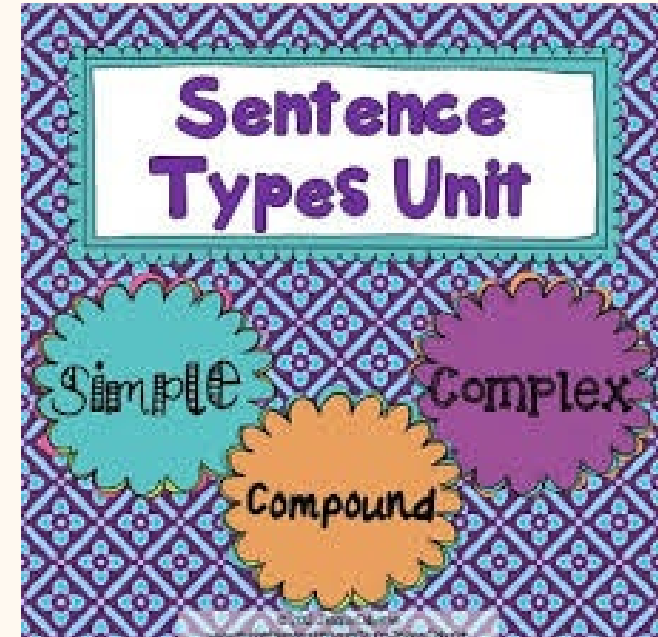


Creating Sentences:

Combine shorter sentences into longer ones.

- The boy was thirsty.
- The boy drank lemonade.
- The weather was perfect.
- The girls were playing soccer.

and, both, when, because, so



Katahira Teaching Method

1. Teacher models idea generation.

“Today I will write about something I want to do.”

— I want to climb a tree.

2. Then model translating strategy: *“What I Think I Can Say, What I Can Say, I Can Write.”*

- Say the thought out loud again one word at a time.

I want to climb a tree.



Katahira Teaching Method

3. Model the transcription process for each word by saying the word, phoneme by phoneme.
 - Ask the children to help find a letter to spell the sound using a letter strip.
 - As children suggest letters, write them, spelling each word in the thought.



Katahira Teaching Method

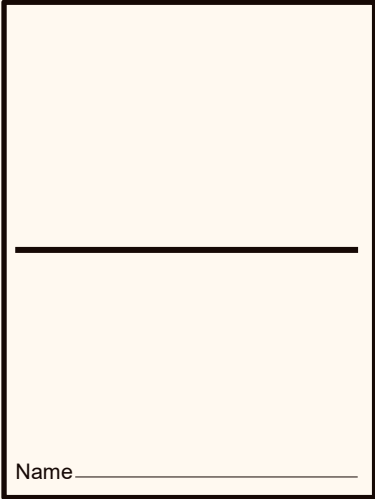
4. Then, children practice the strategy, first thinking out loud, then saying each word one at a time, sounding it out, and spelling each sound in it.
 - They illustrate their story.
 - After children draw and write, they read what they wrote to another child in the class.
 - During the year they can revised their favorite stories, illustrate them, and at the end of the school year, publish a book of their writing and art work.



Picture Story/Word Story

- A technique that can be used to engage young children in writing by demonstrating for them the developmental levels of writing.
- This approach helps children feel comfortable writing at their own level and helps them move onto the next level.

(Paulson, et al., 2001)



Name _____



“Picture Story/Word Story”



Picture Story

y
ed to a

sentences according to the picture
modeling the levels of print
development writing the same
sentence at various levels.



Writing Paragraphs

Three-Sentence Paragraph

- Topic title
- Beginning sentence
- Two important ideas

Volcano

Volcanos are cone-shaped mountains.

Volcanos can erupt with ash and lava.
They are stunning in the landscape.



(Step Up To Writing, Grades K-2 Auman, 2016)



Writing Information Paragraphs

One-Paragraph Structure

- Topic sentence
- Key idea
- Examples, explanations, events, experiences
- Concluding sentence

(Step Up To Writing, Grades K-2 Auman, 2016)



Information Writing

Longer Paragraph Structure

1. Topic sentence
2. Key idea
 - Examples, explanations, events, experiences
3. Key idea
 - Examples, explanations, events, experiences
4. Concluding sentence



(Step Up To Writing, Grades K-2 Auman, 2016)



Evaluating Writing Progress



- - Use rubrics with components:
 - Organization
 - Content
 - Language
 - Print Conventions
- - Students check writing for revision process.
- - Teachers measure student progress and instructional needs.

(Adapted from *Step Up To Writing*, Grades K-2 Auman, 2016)



Writing Rubric Components

1. Organization: beginning, events, conclusion
2. Content: level of details
3. Language: sentence completeness
4. Print Conventions:
 - a. Handwriting
 - b. Capitals
 - c. Punctuation
 - d. Spelling

– Below basic
– Basic
– Proficient



Rubric Ideas for Students

- My story has an order.
- My story has a message.
- I added details.
- I used capitals.
- My letters are legible.
- I used punctuation.
- I spelled my words correctly.



(Adapted from Step Up To Writing, Grades K-2 Auman, 2016)



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Take-Home Points



- Writing is a critical skill for all children.
- Handwriting and spelling facilitate composition skills.
- Early intervention is a key to reducing the impact of oral/written language disorders like dyslexia and dysgraphia.
- Explicit instruction, at all levels, is a proven, evidence-based approach for teaching writing.



What You'll Learn

- The developmental connections between reading and writing in the early literacy time period
- Assessment strategies to identify levels of writing skill development
- How to implement research-based instruction techniques to facilitate writing as well as enhance other language and literacy skills

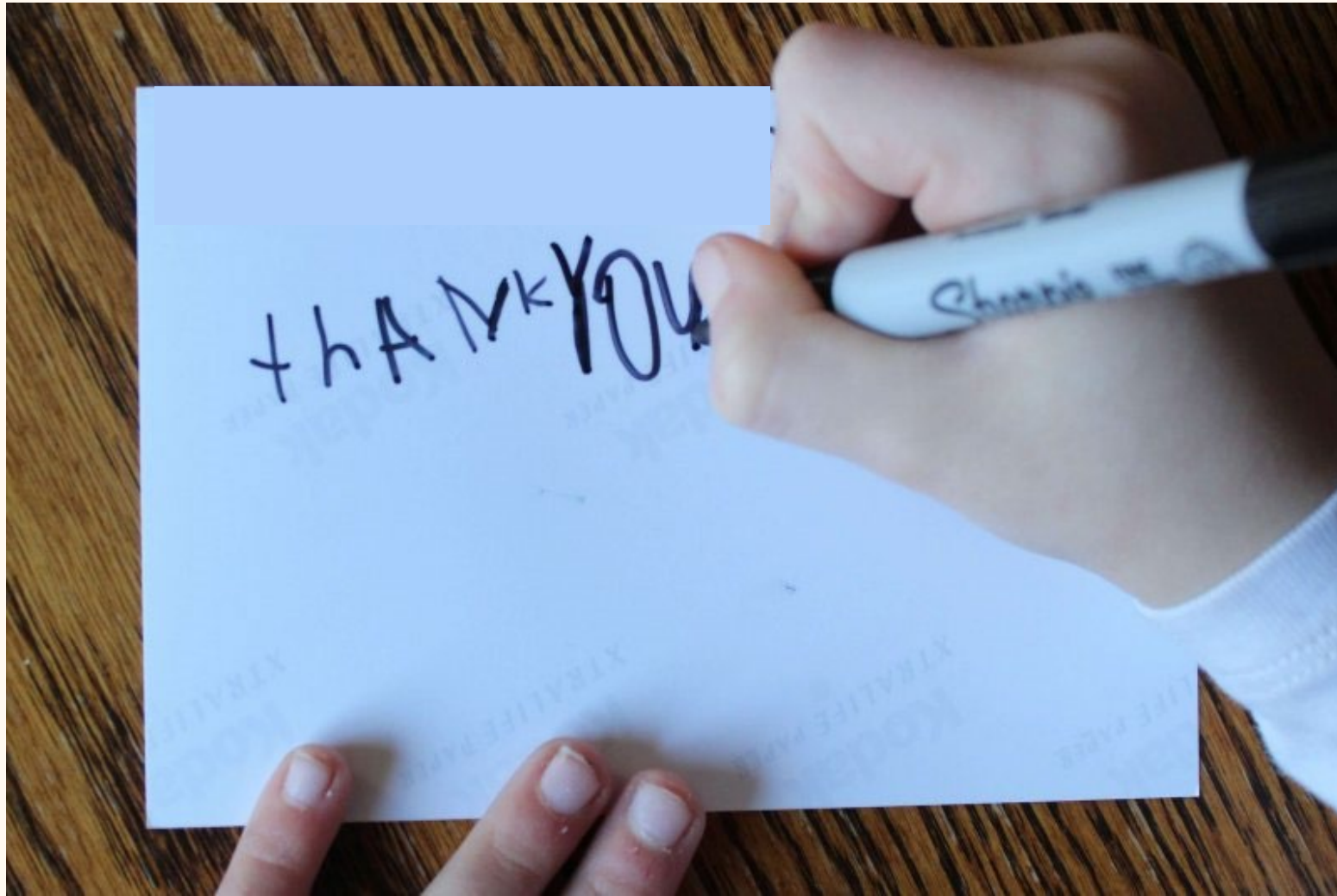


What squared up?

What's going around?

3 key points





Contact Information

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