

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



PART 1

Letter Names, Sounds, or Both?

What the Research Says about Alphabet Learning

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Agenda



PART 2

PART 1

- A** Research findings on letter learning
- B** Characteristics of letters that may facilitate learning
- C** Research findings on alphabet instruction
- D** Evidence-based strategies for alphabet instruction

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Current Challenges

- There are wide ranges of alphabet learning in young children.
- Approaches to alphabet teaching vary greatly with relatively little knowledge about the impact of these various methods of instruction (Piasta & Wagner, 2010a).

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Early Learning Standards

Early Learning Standards or Guidelines across the states have a range of letter learning expectation from “some” to a specific number (e.g. ranging from 10 to 20).

Newly revised Head Start standards (2015) have increased the letter learning benchmark to:

- 18 uppercase letter names
- 15 lowercase letter names
- knows the sounds associated with several letters

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Colorado Early Learning and Development Guidelines

1. recognize that the letters of the alphabet are a special category of visual graphics that can be individually named.
2. recognize that letters of the alphabet have distinct sound(s) associated with them.
3. attend to the beginning letters and sounds in familiar words.
4. identify letters and associate correct sounds with letters.

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Common Core Reading Standards: Kindergarten Foundational Skills

1. Print concepts: Demonstrate understanding of organization and features of print:
 - a. Follow words left-right, top-bottom, page-page
 - b. Recognize spoken words represent written words with specific letter sequences
 - c. Use spaces between words
 - d. Name all upper and lower case letters**

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Common Core Reading Standards: Kindergarten Foundational Skills

3. Phonics and word recognition: Know and apply grade-level and word analysis skills in decoding words

- Demonstrate knowledge of 1:1 letter-sound correspondences
- Associate long/short sounds with common spellings for 5 major vowels
- Read common high-frequency words by sight
- Distinguish between similarly spelled words by identifying sound of letters that differ

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Definitions

Early literacy learning is defined as the time period from birth to six years of age (Robyak, Masiello, Trivette, Roper & Dunst, 2007).

Early reading and writing occur in kindergarten into the early elementary grades.

Early Childhood is the period from birth through age 8.




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Narrow Window for Alphabet Learning

- Floor effects in preschool children
- Ceiling effects in studies with older children (Ouellette & Haley, 2013)

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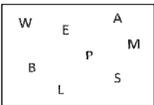
Alphabet Knowledge

Understanding of letter forms, names and corresponding sounds

Measured by

- Recognition:** ask the student to find the letter 'M'
- Production:** show the letter 'M' and ask the student to name the letter and/or sound
- Writing:** ask the student to write the shape of the letter 'M'

(National Early Literacy Panel, 2008)





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Predicting Later Reading Development

The **best TWO** early kindergarten predictors of reading achievement in 2nd grade are:

- Phonemic awareness (sound isolation)
- Letter name knowledge

(National Early Literacy Panel, 2008; National Reading Panel, 2000)



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"Early Identification of Reading Disabilities: Within an RTI Framework"

A screening battery in kindergarten of:

- Letter name fluency
- Phonemic awareness (sound matching)
- Rapid Naming
- Nonword repetition

Accurately identified good and poor readers at the end of 1st grade.

(Catts, Nielsen, Bridges, Liu, & Bontempo, 2015)



APC,DEF,FGHI,JKLMN,OPQRS,TUVWXYZ abcde,fg,hijklm,nopq,rstuvw,xyz

Transition from Early Literacy to Early Reading and Writing

- **Alphabetic principle** is the understanding that there is a systematic relationship between letters and speech sounds.

The diagram illustrates the transition from early literacy to early reading and writing. It shows 'Alphabet Knowledge' (with letters C, A, T) and 'Phonemic Awareness' (with sounds /k/, /ă/, /t/) leading to 'Alphabetic Principle' and 'Phonics'. The word 'cat' is shown in three ways: as a whole word, as a sequence of letters 'c-a-t', and as a whole word again. A cartoon cat is also present.

APC,DEF,FGHI,JKLMN,OPQRS,TUVWXYZ abcde,fg,hijklm,nopq,rstuvw,xyz

Bidirectional Relationship

The diagram shows a bidirectional relationship between 'Letter name and sound knowledge' and 'Phonological processing'. A yellow arrow points from letter name and sound knowledge to phonological processing, and a blue arrow points from phonological processing back to letter name and sound knowledge.

Phonological skills may be the catalyst for letter name to sound knowledge

- being able to segment the sounds in letter names "b" into /b/ /i/

(Piasta & Wagner 2010b)

APC,DEF,FGHI,JKLMN,OPQRS,TUVWXYZ abcde,fg,hijklm,nopq,rstuvw,xyz

Four-Part Processing Model for Word Recognition

Adams, 1990
- From Seidenberg & McClelland, 1989
- Enhanced by Moats (LETRS)

The diagram shows the Four-Part Processing Model for Word Recognition. It consists of four main components: Context Processor, Meaning Processor, Phonics, and Orthographic Processor. The Context Processor and Meaning Processor are at the top, connected by a double-headed arrow. Below them are Phonics and the Orthographic Processor, also connected by a double-headed arrow. The Phonics component is connected to the Orthographic Processor. The Phonics component has inputs from 'speech sound system' and 'language input', and outputs to 'language output'. The Orthographic Processor has inputs from 'writing output' and 'reading input', and outputs to 'letter memory'.

APC,DEF,FGHI,JKLMN,OPQRS,TUVWXYZ abcde,fg,hijklm,nopq,rstuvw,xyz

"The **Phonological Processor** cannot usefully learn letter sounds until the Orthographic Processor has learned to discriminate the individual letters with which they must be linked."

"The **Orthographic Processor** cannot begin to learn spellings until it has learned to recognize the letters from which they must be built."

(Adams, 1990, p. 362 & 2013)

The diagram compares the Phonological Processor and the Orthographic Processor. The Phonological Processor has inputs from 'language input' and 'speech sound system', and outputs to 'language output'. The Orthographic Processor has inputs from 'writing output' and 'reading input', and outputs to 'letter memory'.

APC,DEF,FGHI,JKLMN,OPQRS,TUVWXYZ abcde,fg,hijklm,nopq,rstuvw,xyz

"If a child cannot rely on the alphabetic principle, word recognition is inaccurate or laborious and comprehension of connected text will be impeded." (Snow et al., 1998)

A cartoon drawing of a child with a frustrated expression, showing a wide-eyed, open-mouthed grimace.

APC,DEF,FGHI,JKLMN,OPQRS,TUVWXYZ abcde,fg,hijklm,nopq,rstuvw,xyz

Letter-Naming Abilities...

- In preschool and kindergarten is a well-established predictor of children's later literacy skills (National Early Literacy Panel, 2008)
- For example, when assessed at ages 3.5 years, 4.5 years, and 5.5 years was the most consistent predictor of 2nd grade word reading and spelling disabilities. (Puolakano et al. 2007)

A 3D illustration of the letters A, B, and C in various colors and orientations.

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Letter Knowledge . . .



- There is a relationship between early letter knowledge and later literacy skills, independent of children’s age, socioeconomic status, IQ, or other emergent literacy skills, such as oral language and phonological awareness.

(National Early Literacy Panel, 2008)

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Letter Name Knowledge



LNK at entry into kindergarten was the best individual predictor of K reading achievement and second best after phoneme segmentation in first grade reading achievement.

LNK allows children to bridge the gap between visual-cue strategy to phonetic-cue strategy in early literacy.

LNK contributes to phonemic sensitivity.

(Foulin, 2005)

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Letter Names → Sounds



- Letter names serve as an entry point into learning letter sounds and understanding the alphabetic principle.
- Children extract the sound cues in letter names (e.g., CV /bē/ in B or VC /ěf/ in F).
- Evidence for this can be found in the invented spellings of young children (e.g., r for are, yt for what, etc.)

(Baillet, et al., 2009; Evans et al., 2006; Foulin, 2005; Piasta & Wagner, 2010b; Treiman, Tincoff, Rodriguez, Mouzaki, & Francis, 1998)

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Letter name knowledge in 3-4 yr. olds (Justice et al., 2006)	Impact Size
Own-name advantage	11 X
Any letter	1.5 X
Initial letter	7.3 X
Alphabet order hypothesis	1.02 X
Letter-name/sound pronunciation effect	
CV vs VC	n.s.
CV vs NOT	1.8 X
Consonant order hypothesis	1.09 X

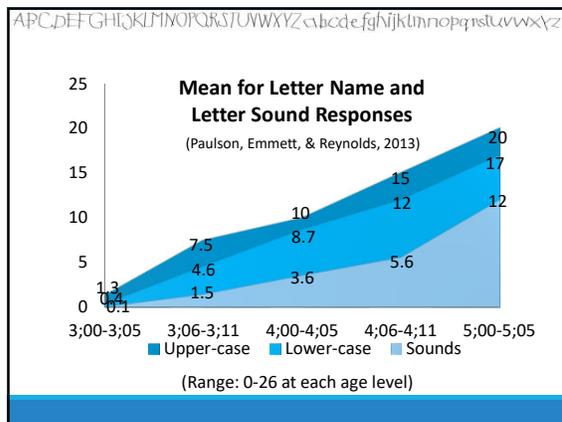
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Letter Name Learning

- Considering literacy outcomes of word identification, spelling, and passage comprehension in first grade and . . .
- Looking at sensitivity, specificity and positive predictive power:
 - Optimal benchmark at P-K to K of:
 - **18 uppercase**
 - **15 lowercase letters**



(Piasta, Petscher, & Justice, 2012)



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Letter Name, Letter Sounds and Phonological Awareness: An Examination of Kindergarten Children Across Letters and of Letters Across Children

Task	Mean	SD	Range
U/C Names	23.1	4.9	2-26
L/C Names	19.5	6.1	1-26
L/C Sounds	15.1	8.1	0-26

(Evans, Bell, Shaw, Moretti, & Page, 2006)

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Challenges of Letter Learning

- Letter names are arbitrary and designated by cultural convention.
- Letter shapes are similar and easily confused.
- Many letters have different upper and lower case forms.
- Letter names generally sound similar.

(Adams, 2013)



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

Letter Properties (Piastra & Wagner, 2010b)

- Consonant or vowel
- Manner of articulation
- Sound/symbol associations (i.e., B vs C)
- Age when a speech sound is typically produced
- Confusability of letter shape and/or pronunciation with other letters
- Frequency in print materials
- Letter name structure
- Letter name-to-sound facilitation effect

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

What's in a LETTER?

- Graphic shape
- Name
- Sound
- Recognition rate

Each has a contribution and all must be considered separately.



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

Upper/ Lower Case Contrasts

SAME SIMILAR DIFFERENT

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

Visual Shape Characteristics

- Straight** i l
- Curved** C c J j O o S s U
- Straight Intersections** E F H I L 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

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

Foundations of Writing Development

Child learn to print letters by first imitating geometric shapes beginning with:

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

(Feder & Majnemer, 2007)

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

Visual Contrasts

E/F	b/d/p/q
M/N/W	m/n/u
P/R	<ul style="list-style-type: none"> • These are ones to NOT teach together at first. • Later, these contrasts may be important to highlight.
C/G	
O/Q	

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

Similar Sounding Labels

/ā/	/ē/	/ě/	
/ū/	/ī/	/ō/	/ah/

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

What's in a LETTER?

Graphic shape

Name

Sound

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Each has a contribution and all must be considered separately.

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ACROPHONIC PRINCIPLE

Letter – Sound Facilitation Effect

Initial phoneme of the letter's NAME corresponds to the letter's SOUND. Consider:

- V
- CV
- VC
- Inconsistent match
- No match
- Interference

Write the alphabet letter that matches the pronunciation:

/āch/	_____	/dē/	_____	/ēn/	_____
/sē/	_____	/ěks/	_____	/zē/	_____
/kā/	_____	/ ē /	_____	/ā /	_____
/w ī /	_____	/ěf/	_____	/pē/	_____
/jē/	_____	/ ī /	_____	/ō /	_____
/ör/	_____	/jä/	_____	/ēs/	_____
/tē/	_____	/ěl/	_____	/vē/	_____
/yū/	_____	/bē/	_____	/dübülyū/	_____
/ēm/	_____	/kyū/	_____		

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



What do we really know?

Letter-name knowledge precedes letter sounds knowledge – and both are important.

There are WIDE developmental ranges and a narrow window of development.

Many characteristics influence letter learning.

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What squared up?

What's going around?

3 key points?

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

Questions and comments?

Thank you



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