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Fostering Language Development and Literacy in Children from Birth to Two Years Old

Vanessa Vives

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Vanessa Alejandra Vives Arévalo

Ouachita Baptist University

Carl Goodson Honors Program

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Introduction

In 2017, the percentage of third graders in the United States with at-level literacy skills was only 46% (Institute, p.8). This is an alarming statistic. In third grade, students move from learning to read to reading to learn. This means that if students are struggling readers in third grade, then those struggles will significantly increase in years to come, especially if they do not receive intervention. The gaps between students who read at-level, and those who do not, are very likely to grow even more as the years go by.

The fact that less than 50% of third graders in the United States have below-level literacy skills is worrisome. Although many different factors may impact this statistic, one of these can be prevented even before students start going to school. When properly fostered through constant and appropriate exposure, a child's cognitive abilities can significantly increase in their early years. However, if they are not encouraged, these skills can be tremendously affected as the number of neurological connections in their brain shrinks (Fitzgerald, 2014).

The purpose of this study is to inform and encourage parents to create opportunities for their children to develop language skills. These language skills will aid children in the process of learning how to read and write, predicting possible future success and preventing them from falling behind. In fact, professor and researcher Donald J. Hernandez found in a study that one in six children who do not have at-level literacy skills by third grade, are four times more likely to not graduate from high school on time (2011, p. 3). To prevent this, parents and/or guardians need to understand why and how they can have a significant impact on the development of their child.

Defining Language and Its Components

Language is the essence of what it means to be human. Animals and other creatures may be able to communicate using sounds and gestures, but these are not the same as the words and symbols that are present in human language. Although there is not a universally accepted definition for language, many have tried to explain it. According to the American Speech-Language-Hearing Association, language is a rule-governed and dynamic system of traditional symbols that is used in various modes for thought and communication ("Language," n.d.). Language can also be defined as the comprehension and use of oral and written representations, including receptive (listening and reading) and expressive (speaking and writing) components ("Language," n.d.). Overall, the purpose of language is to communicate ideas about the world, relationships, objects, and more; however, our ability to express these ideas is different from the object upon which they are based. For example, when someone feels happy, the feeling itself is different from the words "I am happy."

Form: Phonology, Morphology, and Syntax

To understand language in a better way, one should observe its components. Three main observable features in which language can be broken into are the following: form, content, and use (Birsh, 2011, p.89). The form of language is primarily focused on its phonology, morphology, and syntax. Phonology is the study of the speech sound (i.e., phoneme) system of language, including the rules for combining and using sounds ("Language," n.d.). For example, when hearing the word /cat/, the different phonemes would be /c/, /a/, and /t/. Before understanding the meaning or structure of a word, language uses different sounds to symbolize parts of meaning. This leads into the next area, morphology, or the study of the rules that govern morphemes, which are the minimal meaningful units of language ("Language," n.d.). For

example, in the word *unreadable* there are three morphemes as follows: there is a prefix *un* that means "not," the root word *read*, and the suffix *able* that means "can be done." Morphological knowledge and mastery contribute to vocabulary growth, spelling, comprehension, and the richness of a person's written language (Birsh, 2011, p. 98). The last feature in the form of language is syntax, which refers to the rules that pertain to how words can be combined to form meaningful sentences and transpose them into questions and answers (ASHA, n.d.). Syntax directs comprehension as it reveals the relationship between and among words. Together, phonology, morphology, and syntax work to combine sounds and order words to create sentences and display chains of thought.

Content: Semantics

The second observable feature of language is its content, also known as semantics, which refers to the meaning of words and their combination in a language ("Language," n.d.). While morphology refers to the specific and smallest unit of meaning that make up words, semantics focuses on how these words and their combination bring about meaning to an overall message. For example, the word *move* can have different meanings, like to make progress, a change of place or state, or to go in a specific direction. Depending on the context and use of a word, semantics help to determine its meaning. Another example of this is the use of metaphors, similes, sarcasm, and more. In these cases, words may be manipulated to convey a different or more profound message than their literal meaning.

Use: Pragmatics

The third observable feature of language is pragmatics, or the rules of how language is used in a specific context or situation, often influenced by culture ("Language," n.d.). For example, when talking to a friend, someone would use a different tone or choose different words

than when talking to their supervisor. Instead of asking "What's up?" they would probably ask "How are you doing?" Pragmatics is heavily influenced by social norms and people's expectations of behavior in a specific context. For young learners, the pragmatics in social interactions use different vocabulary and rules than the ones in an academic setting like school (Birsh, 2011, p. 98). As children are exposed to different contexts, they learn the rules that dictate how language is used in a variety of situations.

Overall, language is defined and influenced by its components, which depend on a symbol and its meaning within a specific context. Refer to Table 1 to see the relationship between language components and their expression in both spoken and written language.

Table 1

Language Components and Their Expression in Spoken and Written Language

	Spoken Language		Written Language	
	Listening	Speaking	Reading	Writing
Phonology	ability to identify and distinguish phonemes while listening (i.e., phonological awareness)	appropriate use of phonological patterns while speaking	understanding of letter-sound associations while reading (i.e., phonics)	accurate spelling of words while writing
Morphology	understanding morphemes when listening	using morphemes correctly when speaking	understanding grammar while reading	appropriate use of grammar when writing
Syntax	understanding sentence structure elements when listening	using correct sentence structure elements when speaking	understanding sentence structure while reading	using correct sentence structure when writing
Semantics	listening vocabulary	speaking vocabulary	reading vocabulary	writing vocabulary
Pragmatics (includes discourse)	understanding of the social aspects of spoken language, including conversational exchanges	social use of spoken language, including production of cohesive and relevant messages during conversations	understanding point-of-view, needs of the audience, etc.	conveying point-of-view, intended message, etc.

Note: Data taken from American Speech-Language-Hearing Association. (n.d.). *Language in Brief*. American Speech-Language-Hearing Association. Retrieved March 20, 2023, from https://www.asha.org/practice-portal/clinical-topics/spoken-language-disorders/language- in-brief.

Language itself is the vehicle for learning and interacting with others, but how people acquire it and whether it is a natural process or not, are significant questions.

Theories of Language Acquisition

While defining language can be complex, explaining how it is acquired can be an even greater enigma. Throughout time, researchers and psychologists have tried to answer this question, breaking the large process of language acquisition into four main theories: cognitive theory, behaviorist theory, universal grammar theory, and interaction theory. These theories can conflict with each other, but they all add to the overall understanding of how people acquire language.

The cognitive approach of language acquisition is based on the ideas of Jean Piaget, a Swiss psychologist in the 1930s. Piaget placed the process of language development within the large context of intellectual development ("Theories," n.d.). He argued that every child is born with a limited cognitive ability that increases as they are exposed to the real world. Therefore, a child's own ability to develop, as well as their experiences, gives them a *natural* ability to develop language.

The behaviorist theory, based on the research of the American psychologist, B. F. Skinner, was developed after carrying out various experiments with animals, like rats ("Theories," n.d.). He concluded that these animals could be taught, or trained, to engage in a specific behavior by forming habits. Desirable behaviors are encouraged by using positive and negative reinforcement. On the other hand, undesirable behaviors are punished. Considering this, Skinner suggests that babies acquire language by imitating their parents or guardians. When a child successfully attempts to say a word, they are usually rewarded by an adult who notices and gives praise, therefore giving positive reinforcement. However, since unsuccessful attempts are

not praised, they are forgotten because of the negative punishment they receive. Refer to Graph 1

for further explanation on how reinforcement affects a desired behavior, in this case, the

acquisition of correct language. Although the behaviorist theory can provide insight into the

process of language acquisition, there can be multiple objections. One of these objections is that

language is based on specific rules and features that determine meaning, and these cannot rely

solely on imitation and reinforcement.

Graph 1

Reinforcement in Language Acquisition (Desired Behavior) According to Behaviorist Theory
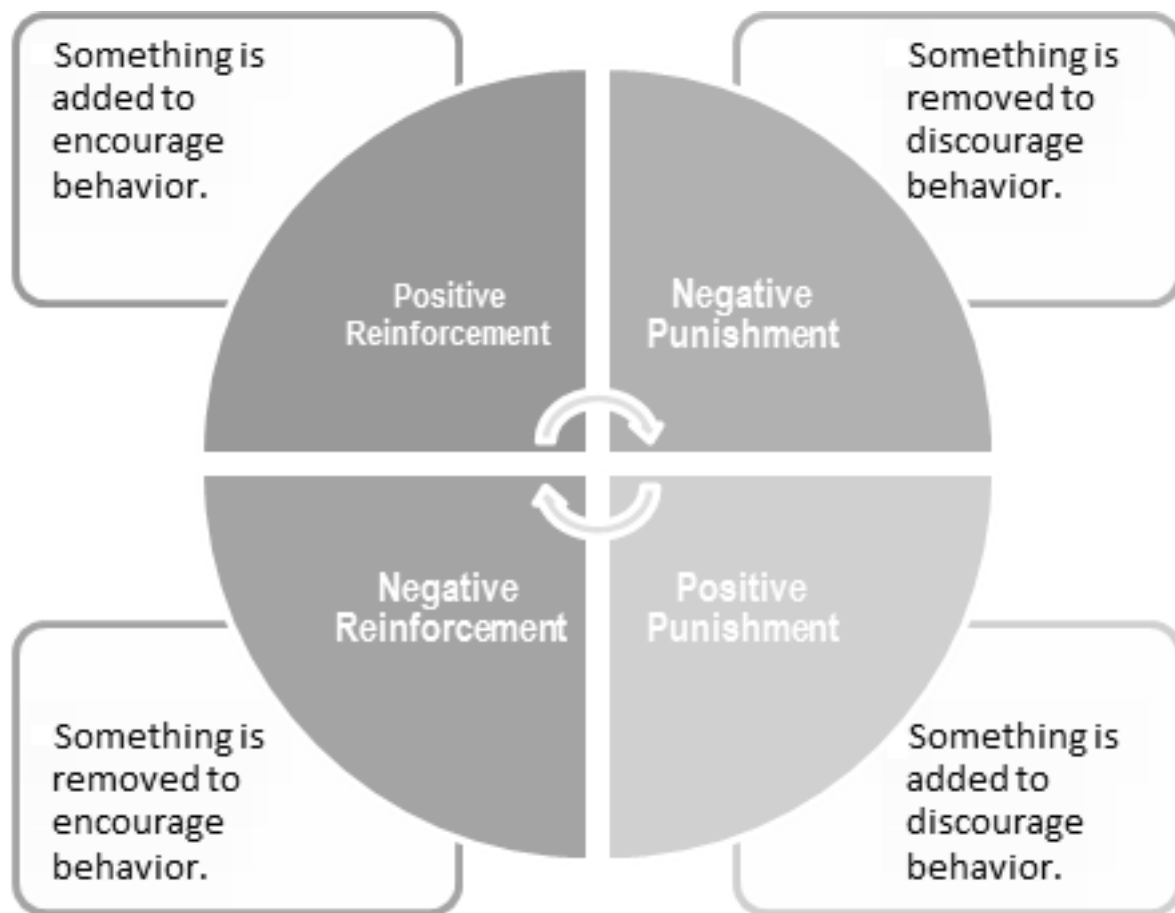
Note: Data taken from Hitching, Galina. "Positive Reinforcement: What Is It and How Does It Work?" *Science of People*, 20 Sept. 2022, https://www.scienceofpeople.com/positive-reinforcement/.

The universal grammar theory, also referred to as the innateness or nativist theory, was proposed by Noam Chomsky, an American philosopher and linguist, in criticism of the behaviorist theory. Chomsky focused on the often inadequate language input that children receive, as adults usually do not speak to them in complete sentences. Therefore, he concluded that children must have an innate faculty to acquire language, also known as the language acquisition device ("Theories," n.d.). According to this theory, the human brain has evolved to contain universal grammar, or linguistic information, at birth. Chomsky did not imply that newborns know how to speak a specific language like English, but rather, that all human languages share common principles that are innate to the brain. These common principles refer to the observable features of language. Although every language has clear differences, they all have specific phonemes and parts of speech, like verbs and nouns. While the universal grammar theory has been considered in the debate regarding language acquisition, it has been modified throughout time. Dan Slobin, an American professor of psychology and linguistics, suggested that the language acquisition device proposed by Chomsky may be accurately described as a mechanism for working out the rules of language. In other words, the human brain may not contain a universal grammar, but rather, it is biologically wired to understand the language input that receives ("Theories," n.d.).

Lastly, the interaction theory of language acquisition, proposed by Jerome Brunner, an American psychologist in the 1900s, argues that although children do have innate abilities to acquire language, they also require interactions between their caregivers and them. Brunner suggests that because the purpose of language is to communicate, it can only be properly learned in a context where socialization occurs ("Theories," n.d.). As caregivers talk to children, they tend to adjust their vocabulary or intonation. This adjustment is often referred to as child-

directed speech (CDS), which Brunner suggests serves as a scaffolding strategy for children to acquire language ("Theories," n.d.). Overall, the interaction theory argues that to properly learn language, children need to receive specific and accurate input.

These four main theories are not entirely conflicting but allow for a better and deeper understanding of what language is and how children acquire it. On one hand, humans are born with innate qualities in their brain that facilitate language acquisition, including understanding its observable components. On the other hand, clear input needs to be present, whether explicit and/or implicit, for children to receive information and process it with their innate qualities. Together, these two main factors demonstrate that children do benefit from proper exposure to the correct rules of language, allowing them to learn how to apply them in the correct context and communicate the desired meaning.

Defining Literacy

After understanding what language is and how different theorists argue that it is acquired, one must make a clear distinction between literacy and language. While language refers to a code where ideas are represented through symbols for communication, literacy refers more specifically to being proficient in reading and writing (Birsh, 2011, p. 98). In general terms, language includes the ability to listen, speak, read, and write, but literacy only includes the latter two.

As suggested in the theories of language acquisition, listening and speaking are innate ways of perceiving and using language in the developmental process. However, reading and writing must be taught, which means that they are not innate abilities, and not everyone can learn them with ease (Birsh, 2011, p. 98). For example, even if someone does not explicitly teach a child how to speak, they will eventually start doing so because of their constant exposure to

hearing people talk. However, children do not have this same ability when it comes to reading and writing—there are explicit rules, like letter-sound correspondence, that need to be explained.

The Impact of Language on Literacy

Even though oral language (listening and speaking) is different from written language (reading and writing), there is a clear reciprocal relationship between the two. In fact, researchers suggest that literacy (reading and writing) is a [oral] language-based skill (Birsh, 2011, p. 82). Oral language is used when developing early decoding skills (the ability to recognize letters and relate them to their sounds) as they support comprehension when reading. For example, if a child is learning to read, and they try to decode the word "cat," they are more likely to be successful if they have heard this word before and they know what it means. When children develop oral language, the easier it will be for them to be successful at reading.

The purpose of reading is comprehension (Soifer, 2021). Therefore, when developing literacy, it is crucially important for children to have previous oral language skills to support their learning. As mentioned above, children are better able to retain knowledge regarding literacy instruction if they already have advanced language development. In addition to that, successful language development is an essential component for later reading comprehension. In fact, when there are gaps in the initial instruction, the gaps become greater in older years if there is no appropriate intervention.

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The Importance of Starting Early

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Developing language skills from a very young age has a direct and significant impact on a child's ability to be successful at reading (and comprehension) when they grow older (Fitzgerald, 2014). The long-term effect of fostering language development skills at an early age is evident when looking into the neurological development of a child. In fact, the physical

development of the brain depends on the words that babies hear as they are growing. Dr. Brenda Fitzgerald, former Director of the Center for Disease Control and Prevention, explains that every time a child hears a word, it stimulates a neuron, and the specific path grows even stronger when the word is repeated (2014). As neurological connections are built so does the child's capability for continuous learning. On the other hand, when a child does not hear a word frequently, the opposite occurs, leading those neurons to shrink and die and, therefore, minimizing the capacity to learn (Fitzgerald, 2014).

In other words, neuroplasticity, or the ability of the brain to change by relearning and strengthening important connections, is greater in the early years. Dr. Iona Novak, Head of Research at Cerebral Palsy Alliance Research Institute, explains that every child is born with around 100 billion neurons in the brain (2019). These are cells ready to start creating neural pathways, reflecting learning. Dr. Novak argues that although it may never be too late to learn, the first five years of life are critical for neurological development due to the rapid learning that children can experience. Since early intervention is beneficial, parents and/or guardians should engage in practices that provide clear opportunities for their child to develop their cognitive abilities. See Appendix A for a brochure with specific and practical tips on how to best help children, from birth to age two, to develop language. The brochure explains the difference between language and literacy, and how they are acquired. It also offers a deeper look into literacy in the United States and its impact on high school graduation rate. Finally, the brochure provides resources for parents and guardians to continue to learn how they can have a positive impact on the development of their children.

Overall, language and literacy are essential components of what it means to be human. Certain aspects of development come naturally to the brain, but others should be properly

fostered to reach their full potential. Parents and guardians should be aware of the active role that they can play in the development of cognitive abilities that facilitate language in their children. By doing so, it not only benefits a child, but the future of society.

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Appendix A. Brochure: A Parenting Guide on Language Development

PART I:

TIPS TO FOSTER
LANGUAGE AND LITERACY DEVELOPMENT AT HOME

READ

Read everything!
• Read labels, signs, menus, cereal boxes, etc.

Read books! Try do so once a day.
• Discuss the pictures, characters, plot.
• Make connections from the book to their own life.
• Point to the words as you read, modeling reading left to right.
• Point to the pictures and name the items on them.
• Encourage independence by letting your child choose the book.
• Read expressively. Use different voices for different characters.
• Ask your child to make predictions.
→ *"What do you think will happen next?"*

CHOOSING BOOKS FOR TODDLERS:
• Simple text and repetition.
• Bright and colorful illustrations.
• Familiar actions and objects.
• Multisensory! Touch features, sounds, etc.

LOOKING FOR MORE RESOURCES?

• Center for Disease Control and Prevention (CDC) – Milestone Tracker App
• Child Mind Institute (childmind.org)
• New Parent Support (nct.org.uk)
• American Speech-Language-Hearing Association (asha.org)
• Handy Handouts (handyhandouts.com)
• TEDx Talk: Improving Early Child Development with Words by Dr. Brenda Fitzgerald (youtu.be/y8qc8Aa3weE=1)
• "Fostering Language Development and Literacy in Children from Birth to Two Years Old" by Vanessa Vives

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*For references, look at "Fostering Language Development and Literacy in Children from Birth to Two Years Old" by Vanessa Vives.
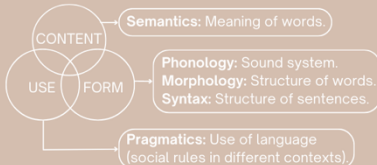
A PARENTING GUIDE ON
LANGUAGE DEVELOPMENT

BIRTH - 2 YEARS OLD
Written by Vanessa Vives

PART II:

WHAT IS LANGUAGE?

Language can be defined as the comprehension and use of oral and written symbols, including receptive (listening and reading) and expressive (speaking and writing) components. The three observable features of language are the following:*

CONTENT
Semantics: Meaning of words.

USE — **FORM**
Phonology: Sound system.
Morphology: Structure of words.
Syntax: Structure of sentences.

Pragmatics: Use of language (social rules in different contexts).

WHAT IS LITERACY?

While language refers to a code where ideas are represented through symbols for communication, literacy refers more specifically to being proficient in reading and writing.

Listening and speaking develop *naturally* in children, BUT reading and writing need to be *taught.*

LANGUAGE and LITERACY have a RECIPROCAL relationship.

Children who grow up in an environment that is rich with opportunities for language development, are more likely to develop literacy in an easier and more effective way.*

A DEEPER LOOK INTO LITERACY IN THE U.S.

• In 2017, the percentage of third graders in the United States with at-level literacy skills was only **46%.***

• Research shows that **one in six children**, who do not have at-level literacy skills in third grade, are **four times more likely** to not graduate from high school on time.*

⚠ THESE ARE ALARMING STATISTICS, BUT ⚠
WE CAN PREVENT THEM.

HOW? → **START EARLY!**

Every time a child hears a word, it creates neurological connections. As connections grow stronger, so does the child's capability to learn.*

When a child does not hear a word frequently, neurons shrink and die, and therefore, minimizes the capability to learn.*

Although it may never be too late to learn, the first five years of life are **critical for neurological development.***

TIPS TO FOSTER LANGUAGE AND LITERACY DEVELOPMENT AT HOME

COMMUNICATE

Narrate or sing routines as you go. Incorporate/reinforce vocabulary.
• Bath time or diaper changing: Mention steps.
→ *Vocabulary: Water, clean, table, open, etc.*
• Visiting the park: Talk about the sounds, colors, shapes and smells you are exposed to.

Use questioning.
• Ask open-ended questions (not only yes/no answers). Encourage them to give explanations.
• Encourage children to ask questions
→ *"Ask your friend what her favorite color is."*
• Prompt children to talk about feelings and ideas. Use questioning to guide them.
→ *"How do you feel about _____?*

Play games that emphasize listening.
• Simon Says, Telephone, etc.

Label praise.
• Instead of just saying "good job," say "good jobs stacking all the playing cubes."

Engage your child in conversation.
• Look at them when they are talking!
• Respond to gestures.
• Model appropriate rate, volume, and tone.
• Model taking turns when speaking. Stay on topic.
• Give them time to process what you say.
• Listen. Say what they are trying to communicate.
→ *"Ohh, do you want your water bottle? Here you go."*
→ *When your baby says "Mom," say "Mom is here."*