



RESEARCH PAPER

Language Acquisition and Learning Process in Infants, Normal and Special Cases Under the Framework of BF Skinner and Chomsky

¹Khubaib ur Rehman, ²Dr. Tayyaba Yasmin and ³Sidra Bukhari

1. Research Associate, Riphah Institute of Language and Literature, Riphah International University Gulberg Campus Lahore, Punjab, Pakistan
2. Associate Professor, Department of English, University of Education, Lahore, Punjab, Pakistan.
3. Lecturer, Department of English, University of Education, Lahore, Punjab, Pakistan

***Corresponding Author:** khubaib.rehman@riphah.edu.pk

ABSTRACT

This study explores the differences in language acquisition between normal and special infants, focusing on age, acquisition order, and language skills (reading, writing, listening, and understanding). It examines how infants raised in isolation or with animals acquire language compared to those in typical environments. The research uses a contrastive analysis based on BF Skinner's behaviorist model and Chomskian's concept of innate language ability. The study finds that infants in isolated or abnormal environments show delayed or limited language development, while typical infants develop language through exposure and cognitive structures. It is recommended that future research investigate the impact of isolation on language acquisition and the role of innate cognitive structures in language learning. The study also suggests the need for early interventions for children in non-typical environments to support language development and mitigate delays in acquiring communication skills.

KEYWORDS Language Acquisition, Special Cases, Contrastive Acquisition Analysis

Introduction

With In this investigation paper, the major focused area is language acquisition order in different cases which is elaborated by using a qualitative technique of research. Furthermore, the detailed analysis of acquisition order and the famous cases of abnormal language acquisition is also thoroughly interpreted in the research. We think that language is a natural process like a normal person moving his hands or maybe moving his head. Another thinking about the language acquisition order of infants is that they accumulate everything that they eavesdrop on. When we contemplate what happens when an infant is elevated by an animal like a dog or sheep, and what etymological perception he acquires, or a child who is entirely blind and deaf when he is born then how he snoops and stores the language and how he generates the things which are abstracts, how he talks about the visuals. This research built up the understanding of the acquisition process in the human mind concerning special infants and compare their acquisition order with normal infants having all senses.

Language acquisition is a process through which a child learns his first language unconsciously. The process of language acquisition starts from the day when the brain of an infant is complete before his birth. The auditory senses are fed from the sounds by using the mother's blood of the infant as a medium of auditory reception. That's the basic concept of language acquisition before the birth of the infant. After birth, the second half of language acquisition starts which linguists think it's a surrounding-based process in which a child is living and by the listening, hearing and visors elements he perceives the language through LAD (Language Acquisition Device). This unconscious process

continues till the age of 3 years and after that whatever a child wants to learn is not more associated with the LAD. The language which is acquired by infants is marked as L1. It's figured out by the name of "Mother Tongue" and its reason is the association of language with the mother of an infant.

There are different stages through which the acquisition process of language is done. First after birth, an infant realizes with vocalization; the production of basic bundles of sounds at the age of 6 months. At that stage, the realization of sounds the infant is not there. After that, he starts Babbling at the age of 6 months commonly which remains till 12 months after birth and at that stage he starts producing sounds with the reference of the referents. He uses basic limited pointers toward the observatory objects, like for calling mother or for the need of anything he cries by repeating the word mum or ma. When a child passes through these stages then he starts saying words. Initially, at the age of 16 months, he uses a single word to explain the complex meaning e.g. if he wants to put his toy on the table or he wants to collect his all toys then he only uses the word to. Then the stage of 2 words at the age of 2 years comes when he adds proper nouns with actions like Mummy there or Cup hot etc. At the age of 3 years, he starts comprehension of speech. By his innate ability, he starts producing an infinite number of sentences with a finite number of words.

Literature Review

Kuhl (2010) examined that, sometime the grammatical structure will be incorrect but till the age of 4 to 5 years he corrects himself by observation and by listing the true structure of language. According to Brown's theory, a child learns according to three basic levels and the priority of word frequency. These three stages are the vision of referent, meaningfulness of referent and the distinctiveness of sound. In the end, the child acquires the Auxiliaries and copula forms in the acquisition stages.

Raymer (1993) raised the question that, of what happens if a child is abnormal (deaf and blind) by birth or if a child after birth, lives between animals, how his language becomes, whether he can learn a human language or not, what are the areas in which he will creates his understanding. Above the basic process of language acquisition is elucidated. In the next section, the theories of acquisition will be explained and how they are applied in special cases of language acquisition. In which case what's the suitable theory which is applicable and how the process goes on?

Skinner (1957) saw babies' minds as 'unfilled vessels' which language must be 'put into'. He said, "Kids take in language from their condition and consequences of their exercises" (natural perception regarding language). Skinner would express that an adolescent learns language through empowering input. His basic explanation for the progression of the talk was that caretakers will by and large reward infant kid vocalizations, (for instance, drivelling) by giving the child thought. This extends the repeat of vocalization. He would prescribe that the child won't progress from chattering to language except if the parent shapes the child's language direct.

In the wake of compensating vocalizations for quite a while, custodians become used to an adolescent's chattering and give less thought to it. This rouses the infant to move the drivelling. Now and again, accidentally, the infant makes logically prominent talk sounds for instance if an infant kid suddenly said 'Dada, dada', watchmen may respond energetically to this, envisioning the child is endeavouring to express the word 'Daddy'. The response braces the adolescent's age of this sort of talk sound. Regardless,

watchmen in a little while get depleted by emphases of 'Dada, Dada', and this pushes the adolescent to modify such sounds until the framing system realizes obvious words. This system continues, realizing sentences of growing complexity and etymological exactness. In like manner, the usage of language is compensated when a child demands something and thusly, wins concerning getting it (Skinner, 1957). Skinner didn't ensure that watchmen intentionally set out to shape the language improvement of infants, yet this happens regularly.

Another huge component of Skinner's speculation is the likelihood that youths mimic talk sounds and words communicated utilizing caretakers and, gave this pantomime is compensated, learning will occur. This is how adolescents adjust to new words. In any case, these assumptions anticipate that without help, pantomime won't achieve learning (Tomasello, 2000).

From the above description, it is clear that if an infant lives inside the animals after birth then he may learn their language because according to Skinner language is a natural process and infants are having empty slots in which they store language. From the language characteristics, it is clear that language is communicative and a way of understanding feelings and emotions and their successful transitions to others and vice versa. So by living in animals and practising their language by birth it's very clearly projected through this theory that the child who lives in animals learns their language. According to linguists the L1 which creates basic structure in mind relatively responsible for the learning of L2. In this case, L1 is the animal language that is acquired and L2 is the language which an infant is going to learn related to human beings. The feeblest character of the historical backdrop of linguistics, Chomsky (1959) expresses that language is normal. He created his notable book, "Language and Mind" in 1959, in which he proposed his commended theories on language obtainment. In this book, Chomsky expressed, "When we study human language, we are advancing toward what some may call the 'human substance,' the unquestionable attributes of mind that are, so far as we most likely are mindful, unprecedented to man." According to Chomsky, language is one trademark that is momentous to individuals among all other living animals. Chomsky's speculations have made all the more clear headway and improvement of the vernaculars.

Chomsky suggested that the arrangement of language acquisition is gotten from the inherent techniques. Common is something which is starting at now there at the highest point of the need list since birth. The theory proposed by Chomsky is exhibited by infants living in the same semantic system. Likewise, they are not affected by the external experiences which understand the comparative linguistic structure. He thusly proposed his speculation on language verifying in 1959 as "all adolescents share the proportional inward goals which depict scarcely the sentence structure they are going to fabricate." He recommended that we as a whole live in a characteristic world, and according to him, the mental world is no exception. He also acknowledges that as there are periods of progression for various bits of the body, language improvement can moreover be practised up to a specific age.

Another suggestion of Chomsky's language, obtainment speculation is the path toward picking the best accentuation that matches the data available. He related essential phonetics with empiricist thoughts. The far-reaching sentence structure is the reason whereupon every human language develops. If a Martian linguist were to visit Earth, he would find that there was only a solitary language, with different close varieties. He would have the alternative to think about the language and choose the standards reliant on the models he hears and the instances of various vernaculars. Children don't simply

copy the language that they hear around them. They finish up rules from it, which they would then have the option to use to convey sentences that they have never heard. They don't pick up capability with an assortment of articulations and idioms, as the behaviourists acknowledge, yet a language structure that makes a limitless number of new sentences. Infants are imagined, by then, with the Universal Grammar wired into their brains. This language structure offers a particular set number of possible results - for example, the word solicitation of a customary sentence (Pinker, 1994).

A couple of lingos have an essential Subject Verb Object (or SVO) structure "The teacher gave a discussion." 75% of the world's vernaculars, for instance, English, French, and Vietnamese use either this structure or Subject Object Verb (SOV) including Japanese, Tibetan, and Korean; while others support Verb subject-object (VSO) such as Welsh or Verb Object Subject (VOS, for instance, Malagasy. A couple of vernaculars, for instance, Latin, appear to have free word demand, anyway even here, SOV is very ordinary. OSV is incredibly phenomenal - any way you will find a model in the talk of Yoda, in Star Wars "Strong with the power you are." Language Acquisition Theory ESOL CPD Module 2 Chomsky Language rules are tangled and complex. In case there is no Universal Grammar, how do infants comprehend everything? Exactly when the adolescent begins to check out his people, he will unwittingly see which kind of language he is overseeing and he will set his sentence structure to the correct one this is known as 'setting the parameters'. Perhaps the adolescent was offered during labour, a particular number of theories, which the person being referred to by then matches with what's happening around him. The child knows naturally that there are a couple of words that continue like activity words and others like things, and that there is a limited plan of possible results for mentioning them inside an articulation.

This isn't the information that the infant is told clearly by adults, anyway information that is given for the child to decipher. This game plan of language learning instruments given during labour is suggested by Chomsky as the Language Acquisition Device. The question is that, if an infant is deaf and blind also then, how does he recognise grammatical utterances and how he will be able to make a meaningful conversation of thoughts with normal people? So "humans" have the biological structure of language present by birth according to Chomsky. In the special case of Halen, this study observes how she acquire or learn a language with help of special education and with the help of the innate ability of human language.

Material and Methods

The methodology of this study involves a contrastive analysis between normal and special infants to examine their language acquisition processes in different environments. A mixed-method approach is used, combining both qualitative and quantitative research techniques. The qualitative aspect includes in-depth case studies of infants raised in isolation or in environments with animals, observing their language development in terms of vocabulary acquisition, speech patterns, and cognitive abilities. The quantitative component involves measuring the rate of language development in both groups through standardized tests assessing language skills such as reading, writing, listening, and comprehension. Data is collected from various case studies, observational records, and experiments that focus on language usage and acquisition in both typical and special developmental settings. The theoretical framework is grounded in BF Skinner's behaviorist model, which emphasizes the role of environmental stimuli in language learning, and Chomakian's theory on the innate cognitive structures necessary for acquiring language. By using this approach, the study aims to explore the

interaction between innate ability and environmental influences on language development.

Results and Discussion

Case Studies

Victor (A case of a wild boy and his effort of learning, reading and writing of language)

The study of feral children gained significant attention in the early 1800s when a boy was discovered by hunters in the forests near Saint-Sernin, a town in the Aveyron region of France. The boy, estimated to be around 11 or 12 years old, was found wearing only the remnants of a worn-out shirt and made no noises except for gruff, animal-like sounds. It appeared that he had lived alone in the wilderness for a long time, though it was unclear at what age or by whom he had been abandoned.

Soon after his discovery, the boy's education was entrusted to the dedicated teacher, Jean-Marc-Gaspard Itard. Itard developed a structured program for him, aimed at improving both his social behavior and language skills. The boy, whom Itard named "Victor," began his training with physical exercises and activities designed to help him engage with his environment. These activities proved emotionally beneficial, but teaching Victor to speak proved to be frustrating for Itard. Early attempts focused on getting Victor to imitate words and sounds, but this proved to be challenging.

Victor initially struggled to differentiate speech sounds from other environmental noises. Over time, however, he began to recognize speech sounds and even distinguish familiar spoken words from those used by hearing-impaired children at the institution where he lived. One of the first words he identified was "li," which was his version of "Julie," the name of a colleague's daughter. He also learned to say "Oh my God" and even mimicked the gesture for milk, or "lait" in French. Itard observed that Victor would occasionally repeat the word when given milk but rarely used it in other contexts, such as requesting it.

On the other hand, Victor showed some ability to respond to verbal instructions related to everyday tasks. He also used specific sounds to indicate his desire for a ride in a cart. However, it remained unclear whether these were truly linguistic communications or just responses to his environment. Itard decided to shift his focus from trying to teach Victor language through speech and instead aimed to improve his perceptual abilities. He began a program where Victor learned to recognize colors, shapes, and associate drawings with the objects they represented. Itard also taught Victor the alphabet using individual letter cards, and over time, the boy learned to recognize the word for milk, "lait," as letters. Though initially confused, Victor eventually grasped that these letters could represent the concept of milk when shown the cards. However, it was also possible that he was simply showing off his new "toys" the letter cards to Itard's friends. Later, Victor made progress in reading. Initially, he used written words, such as "book," to refer to specific objects, but he eventually began to associate the words with broader categories, like all books. He also experienced challenges typical for children learning a language, such as overgeneralizing words for example, calling a razor a "cutting tool." Victor expanded his vocabulary to include descriptive terms like "big" and "small," "hot" and "cold," as well as various colors. He also learned action words, such as "eat," "drink," "touch," and "throw." These words were presented to him on cards, and at first, he communicated by using these cards. Eventually, he was able to recall and produce the

words on his own from memory. Within a year, Itard reported significant progress, noting that Victor's understanding, memory, and reasoning abilities had improved. He could analyze and judge situations and had begun to interact with others more effectively. However, despite these cognitive advancements, Victor's spoken language did not improve significantly, and Itard expressed concern. Unfortunately, Itard did not pursue teaching Victor to read, which could have greatly benefitted him.

Genie (A case of the girl who lives in isolation from birth to 13 years of her life)

While the case of Victor may be an example of basic childhood abandonment, it is quite different from extreme isolation, where children are deprived of first-language learning entirely, subjected to environmental neglect, and abused. One such well-documented case is that of a child referred to as "Genie" (Curtiss et al., 1974; Fromkin et al., 1974; Curtiss, 1977, 1981; Rymer, 1993). Genie, a pseudonym, was discovered in the 1970s in Los Angeles, California. By that time, she was 13 years old and had spent most of her life locked in a small room by her father. For the first 12 years of her life, she was confined during the day, dressed only in a diaper and strapped to a child's potty seat. At night, she was placed in a restrictive sleeping bag, essentially imprisoned. She was neglected, receiving minimal care or attention.

Her father regularly beat her with a wooden stick and often growled at her like a dog. Apart from a few plastic sheets, empty spools of thread, a discarded magazine, and some empty containers, Genie had little to engage with. The small windows in her room were covered with heavy curtains, further limiting her sensory exposure.

Eventually, Genie's mother managed to escape with her daughter, leading to the discovery of the case by authorities. Her father, however, took his own life the day he was supposed to face a trial for his abusive behavior. When Genie was found, she was in an extremely poor physical condition and appeared to have no language skills. According to later information provided by her mother, Genie had begun to acquire language at around 20 months of age, just before her confinement began. This was roughly the same age at which Helen Keller (discussed later in this chapter) lost her hearing and sight. However, it is likely that any early language skills Genie had would have been lost after 12 years of such isolation.

Like Victor, Genie displayed curiosity and alertness during the first few days of being cared for. However, unlike Victor, she showed some capacity to understand and even mimic a few words, such as "mother," "red," and "bunny." Nevertheless, aside from these words, she had little to no comprehension of grammar or sentence structure (Fromkin et al., 1974, p. 87). She primarily responded to gestures and the sound of words, and psychological tests revealed that her cognitive abilities were roughly on par with a 2-year-old child, with her language development showing similar characteristics to that of a young child just starting to learn language. Despite this, after several months of care, Genie made remarkable progress. She gained weight, strength, and even developed the ability to walk for longer distances.

Initially, her speech was limited to basic expressions such as "No more" and "Stop it." However, by the end of a few months, she had learned the names of several objects in her environment, demonstrating a keen interest in labeling things.

After about a year of being discovered, Genie was reassessed for her language abilities. She was tested on various aspects of syntax, such as her understanding of

negation, and was able to respond appropriately to commands like "Show me the bunny that doesn't have a carrot" rather than "Show me the bunny that has a carrot." She was also tested on her understanding of adjectives, like "big" and "small" ("Point to the big circle"), and her ability to place objects based on prepositions like "in," "under," "by," and "behind." Despite her rapid improvement in comprehension, her language development continued to progress slowly, though steadily (Curtiss, 1977).

Genie's language development was observed for about eight years, but after that period, her progress slowed significantly. Her language skills, both in terms of comprehension and spoken language, remained well below average, and her speech continued to be grammatically incorrect. Similar to Victor, despite receiving extensive care, attention, and education, Genie was unable to reach a typical level of language proficiency. Ultimately, she was placed in a home for adults with disabilities, where she remains today (Rymer, 1993). This marked the end of the research into Genie's linguistic and other developmental progress. Those interested in learning more about her case can watch the NOVA documentary "Genie: Secrets of the Wild Child," which was produced by Public Broadcasting Service (PBS) in the USA and is available on video.

Halen (A famous literary personality, deaf and blind)

Any thorough discussion of language challenges must include the case of Helen Keller (1880-1969). Keller was born healthy, but due to illness, she lost both her hearing and vision at 19 months old. Before this unfortunate event, she had already begun to acquire some language and would likely have had basic communication and sensory abilities. However, her exposure to language ceased for six years until 1887 when, at the age of 7, Anne Sullivan Macy began teaching her. Macy, herself visually impaired and only 21 years old at the time, was recommended by Alexander Graham Bell to work with Keller. Bell, known for inventing the telephone, had also been a prominent teacher for the deaf, following in the footsteps of his father and grandfather, both of whom worked with the hearing impaired. Bell's familiarity with deafness and the associated challenges made him a key figure in this area of education.

As Buckley (2011) noted, Keller's case was particularly complex because she was not only deaf but also blind. A powerful image of Keller shows her communicating with Bell through hand gestures, while also conversing with Sullivan Macy by feeling the movement of her lips and vocal cords. Despite Keller's significant sensory impairments, Sullivan Macy's efforts to teach her language through touch were successful. Macy had been trained at the Perkins Institute for the Blind in Boston, where she learned techniques for teaching blind-deaf individuals, which she applied to Keller's education. Over time, Helen learned language through touch, eventually even learning to speak. She did so by feeling the articulators used for speech—such as the mouth, lips, and throat of Sullivan Macy and others.

Even though Helen could not hear the sounds associated with speech, she was still able to produce speech, though her voice was somewhat unusual. She spoke in a sharp monotone, resembling the rough voice of Genie. In addition to learning to speak, Keller also mastered Braille. Keller's (1903/1972) autobiography, *The Story of My Life*, offers a captivating account of her experiences. One particularly poignant moment in the book describes when she first learned a word: "My teacher spelled into my hand the word 'water,' and for the first time, I understood that it referred to the cool, flowing substance running over my hand. In that instant, the mystery of language was unlocked for me. I

felt a rush of excitement and joy as I realized that a symbol, whether sound, sign, or touch, could represent an object."

It's important to note that although Helen had no words for the events and sensations she describes before learning her first word, she could still think about her life and later explain it. This raises the question of whether language is essential for thought a topic that remains relevant today.

Keller's accomplishments did not end with her first word. She went on to graduate from Radcliffe College (Harvard University's women's division at the time) with exceptional distinction and became a renowned teacher and writer, advocating for individuals with disabilities worldwide. The question remains: How did Keller manage to achieve such remarkable linguistic success? While it could be argued that Keller's early exposure to some language before losing her senses played a role in her later learning, the fact that it took her six years of isolation from language to grasp her first word 'water' suggests that her early language exposure was not as beneficial as might be expected.

Table 1
Comparative Analysis

Features	Victor	Gene	Helen	Normal Infant
Acquire Language	Wild language of animals	Human Language	Human Language	Human Language
Language levels	Few signs and sounds for the identification and basic needs	Vocalization, Babbling and word acquisition level	Personal creative language for the completion of basic needs	Basic rules of language and unconscious learning of that rules for the production of an infinite number of sentences using a finite structure
Articulators	Perfect articulators	Perfect articulators	Absence of Vision and Hearing	Presence of all senses
Framework	Skinner's language acquisition theory	Skinner and Chomsky's language acquisition theory	Chomsky's language acquisition theory	Skinner and Chomsky's language acquisition theory
Age with acquired language period	10 Years	12 Years	Starts from 19 months	Starts from birth till the proficiency in mother tongue
Learning of Morphemes	Li, Oh Due is successful in the pronunciation of single phonetic units, ovals and consonants separately	Easily learn the words sweet, big after repetition of few times by listening	Use brail for learning of	From the age of 7 months
Language reading and writing skills	Perceptual abilities touch, drink	Normal writing skill	Reach the peak level	Need proper education to learn that skill after the activation of muscular articulators
Language listening skill	Active	Active	Less impaired	By birth listening is active
Language speaking skill	Fail in spoken interaction	Successful in speaking	Learn to read and produce brail a little bit	At the age of 4 years, a normal infant can comprehend the language he acquires
Age of learning period	11 or 12 Years old	13 to 16 year old	5 to 6 year old	Acquire and learn after the acquisition of

Language learn	French	English	English	basic morphemes and visibility of articulators
Language process	Conscious	Subconscious	Conscious	Mother tongue
				Unconscious

Comparative Analysis of Special and Normal Acquisition Construction in Infants

From the above-mentioned data, the concepts of language acquisition for normal infants are mentioned by the researcher but the results from the comparison of that framework by the implementation on exceptional cases of language acquisition process are explained. Furthermore, after the detailed analysis of the research framework while implementing them in every single case the findings are different in each case and many loops wholes are remaining if the single framework or even by the implementation of both frameworks.

In the case of Victor, when the framework Chomsky applied that humans are having an inborn capacity for human language then here the controversy is how Victor was able to communicate with animals and how he learned to communicate with them in their language. On the other hand, according to Skinner, infants are born with empty vessels in which they fit the commands and referents for the sake of their needs and purposes, so vectors also do that. Another thing is an age restriction of language acquisition is thereby Chomsky based on LAD, so in the example of the Victor by the case study, the language learning will be there but the Skinner is not clear about the age restriction of language acquisition.

Here by the comparative analysis of Victor with Gene, she will acquire some part of language after the interaction that is against the Chomsky concept of LAD. According to self-perception regarding Victor, he was having a base language of animals while Gene is having the base language of humans. Victor has to learn the human language as L2 where the Gene just needs interaction which is explained by Skinner and Chomsky both that after storing the languages by observation in mind, the interaction is necessary for the successful use of language. Gene was born in isolation and she never came across any language experience like Victor having the first language of animals. Gene was taught some basics but after that till the level of proficiency, she learns some parts of the language unconsciously. At this spot, logically, the LAD is also involved because she is using her mother tongue and going through the process of language learning and acquisition so it is inverse of the Chomsky concept of LAD that an infant is unable to acquire a language after critical age which is almost 5 Years but Gene is acquiring the language after the double period of critical age.

In both cases, this study analysed the infants with perfect articulators and the issue of critical age of language acquisition was also there. In the case of a special child, Halen she was just 18 months when she was unable to listen and her vision abilities were also damaged by birth. She was the one who acquire her L1 consciously which is again the inverse of Chomsky's theory of language acquisition that L1 is an unconscious process but the LAD was also activated at that time. Her tutor designs for her a special method of language learning with the help of her sense of touch which is now known as Brail. After a lot of effort, she learns her L1 with the help of instructions from the instructor and after the step-wise learning of L1, she was able to produce an infinite number of sentences related to real-world knowledge and abstracts without listening and observation. She just relays on the Brail language and become a great novelist of her age. By using another mode of interaction she was unable. Her learning process was

conscious which is said to be unconscious in the critical age of language acquisition according to the framework.

Conclusion

The major discussion is about the implementation of normal infants' theoretical framework in practical exceptional cases where huge distances between both conditions are found. Concluding the above-mentioned analysis and cases, the basic frameworks of Skinner and Chomsky are unable to explain the critical issues regarding language acquisition separately. After mixing the basic principles of both frameworks, somehow with a deep understanding this study resolves the step-wise acquisition process of Victor, Gene and Halen by the contrast of these infants with normal infants. A few loopholes are the cause of the non-rigid process of language acquisition which is mentioned in the critical appreciation and the reason for that loopholes are the natural process conditions and environment around the infants.

Recommendations

To address the challenges faced by infants in isolated or abnormal environments in terms of language acquisition, it is essential to prioritize early intervention strategies. Research should further explore the impact of environmental factors such as isolation or living with animals on the development of language skills. Understanding how these factors hinder or alter the natural language acquisition process can inform targeted interventions. A comprehensive approach could include fostering exposure to structured language environments through speech therapy, social interaction, and cognitive stimulation, especially in the early years. Additionally, the role of innate language structures, as discussed by BF Skinner and Chakmakian, should be explored further to determine how these structures can be activated or nurtured in atypical developmental contexts. By implementing these interventions and strategies, children in non-typical environments can be provided with the support needed to bridge the gap in language development. Early and sustained efforts can help prevent or mitigate delays in acquiring essential language skills, ensuring better cognitive and social outcomes.

References

Buckley, K. (2011). *Helen Keller: The story of my life and the world I live in*. Penguin.

Chomsky, N. (1959). A review of B. F. Skinner's *Verbal behavior*. *Language*, 35(1), 26-58.

Curtiss, S. (1977). *Genie: A psycholinguistic study of a modern-day 'wild child'*. New York: Academic Press.

Fromkin, V., Curtiss, S., & Hyams, M. V. (1974). The development of language in Genie: A case of language acquisition beyond the "critical period". *Brain and Language*, 1(1), 81-107. [https://doi.org/10.1016/0093-934X\(74\)90036-1](https://doi.org/10.1016/0093-934X(74)90036-1)

Kuhl, P. K. (2010). Brain mechanisms in early language acquisition. *Neuron*, 67(5), 713-727. <https://doi.org/10.1016/j.neuron.2010.08.038>

Pinker, S. (1994). *The language instinct*. Penguin Books.

Raymer, M. (1993). The case of Genie: Language acquisition and language socialization. *TESOL Quarterly*, 27(2), 315-335. <https://doi.org/10.2307/3586952>

Skinner, B. F. (1957). *Verbal behaviour*. *Journal of the Experimental Analysis of Behavior*, 1(1), 57-63. <https://doi.org/10.1901/jeab.1958.1-57>

Tomasello, M. (2000). Do young children have adult syntactic competence? *Cognition*, 74(3), 209-253. [https://doi.org/10.1016/S0010-0277\(99\)00069-4](https://doi.org/10.1016/S0010-0277(99)00069-4)