Theories of Language Acquisition: Implications for Speech and Language Treatment

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> "The articulated signs of human language are not like the expression of emotions of children or animals. Animal noises cannot be combined to form syllables." Aristotle.

What is language? If language is viewed only as a system of communication then obviously many species communicate. Most humans who acquire language use speech sounds to express meanings but such sounds are not a necessary aspect of language. The speech sounds are not a basic property of human language and it is possible that the chirping of birds, the squeaking of dolphins, the dancing of bees and the manipulation of plastic chips by chimpanzees represents systems similar to human language.

The chaffinch will sing the song of its species in a simple degraded form even if it has never heard it sung before, but will only produce the full form of its dialect after hearing it. The chaffinch acquires its fully developed songs in different stages just as human children appear to acquire language in several stages (Fromkin & Rodman, 1983).

So what distinguishes human language from the communicative systems of other living species? A major difference between human language and the communication systems of other species is that human language is creative in the sense of being free from external or internal stimuli.

A basic property of human language is its creative aspect; a speaker's ability to string together discrete units to form an infinite set of novel sentences. The child's first noises are however, stimulus responses. Yet, children are not taught language like they are taught arithmetic (Fromkin & Rodman, 1983).

Young children before the age of puberty who are exposed to more than one language seem to acquire all the languages equally well. How a child acquires language has long been debated by various disciplines and will probably continue to be debated as long as there are more questions than complete and proven answers. The following presents some hypotheses of language acquisition in the language learning child.

A child could learn by imitation yet this does not explain the developing child's grammatical errors (Fromkin & Rodman,1983). A child could learn by reinforcement, yet again this obviously does not explain the many nuances of any language that children seemingly "learn" without there being an obvious reward.

Social interactionists like Catherine Snow at Harvard, who study parent-child interaction, however, point out that children do not have to deduce the principles of language from impoverished and ungrammatical scraps of talk (Snow, 1967). Many studies of child directed speech have shown that speech to young children is slow, clear, grammatical, and very repetitious, rather like traditional language lessons. Adults, therefore, play an important part in children's language acquisition.

Chomsky purports that the basic nature of human language is biologically determined in the human species whereas those details of languages that make them different from each other are learned. The "father" of most nativist theories of language acquisition brought greater attention to the innate capacity of children for learning language. Nativist linguistic theories hold that children learn through their natural ability to organize the laws of language, but cannot fully utilize this talent without the presence of other humans .

Taken from Within Earshot, Issue 6(1).

Chomsky claims that children are born with a hard-wired language acquisition device (LAD) in their brains. They are born with the major principles of language in place, and with some parameters to set (such as whether sentences in the language they are to acquire must have explicit subjects). According to the nativist theory, when the young child is exposed to a language her LAD makes it possible for her to set the parameters and deduce the grammatical principles, because the principles are innate.

Lateralization of function in the brain has been shown through various studies; split brain studies, aphasia studies, ahemispheric brains, and dichotic listening tasks. In the critical age hypothesis, Lenneberg (1983) links the lateralisation of the brain to the language learning abilities of children. It may be this critical age for first language acquisition coincides with the period when lateralisation is taking place and ends when it is complete. He placed this at the end of puberty which appeared to be a crucial age for the age of acquisition. Krashen (1973) has shown that lateralisation may be completed by the age of 5. This may account for why so much of the child's grammar has already been acquired by the child at that age.

Each of the above theories, their hybrids and other theories have abounded the literature for the past 3 decades. How could a speech clinician digest this information? A speech-language pathologist subscribing to the nativist theory could suggest a language-rich environment for the young language delayed child with minimal direct intervention since this intervention would be extraneous from a strictly nativistic point of view. The child would eventually learn language; why push it?

On the other hand, a speech-language pathologist subscribing to a social interactionist viewpoint might take a more interventionist stance and direct all adults involved in the child's communication to use child directed speech. A speech-language pathologist subscribing to the Critical Period Hypothesis might posit that it is pointless to offer services to clients above the age of 12 or 13 since they have passed the crucial period of language acquisition. Some may even dictate that 5 would be the cut-off age limit at which to offer services as some literature does have a lower critical age limit (Krashen, 1973).

A number of pertinent questions then worth asking:

- How do we view language?
- What exactly do we mean by language acquisition?
- Can one take an eclectic approach and posit each of the above main theories at different points of language development?

If language is taken to be the *spoken* form with syntactical and grammatical rules then a person acquiring language would be expected to be able to *use* these rules appropriately and function within them. A clinician subscribing to the nativist theory would expect that the child be able to use his/her language rules after intervention in which the child is surrounded by rich language stimulus.

An interventionist on the other hand might push for a very high degree of child directed speech. These and other approaches might be simultaneously applied by a speech-language pathologist subscribing to the Critical Period Hypothesis.

Speech-language pathologists are trained in a broad view of language; that is besides the expressive component of language there is an equally important receptive component of language that is frequently omitted in the literature on language acquisition. If language is instead taken to be an ability to process, internalize and to communicate thoughts, decisions, needs ... etc through a creative system understood by the person being communicated to then the concept of language acquisition could take very different overtones.

Neurologically much is known about the processes of comprehending and communicating. If for some reason a communicator, especially a child, is prevented from being able to verbally communicate his/her needs or thoughts; this might not necessarily mean that the person has not acquired language. A speech-language pathologist first needs to

be able to assess and indicate if the client has language skills which may not be used in the conventional way. An eclectic approach could be used in the following manner;

- An incomplete version of the nativist theory could be applied; suggesting to the family/caregiver to surround the child with a language rich environment. This might work very well with the very young child who may not be too open to direct therapy.
- An interactionist viewpoint may be beneficial for a child who is aloof and more in tune with the T.V. and computer than with his peers.
- A Critical Period Hypothesis (CPR) may be applied for determining who should be given priority on one's caseload. As much as all clients have a right to fair and just treatment; a younger client as opposed to older client may benefit more from immediate treatment if the CPH was applied.
- The CPH may also not be applied at all if the clinician has reason to believe that the client has acquired language but may be unable to express it functionally. Her job would then be to assist the client in finding a medium of expression that is most functional given the limitation of his/her skills.

Personal clinical observations have indicated that the Critical Age Hypothesis is not absolute. The following is a case in hand; H. was seen from the age of 4 years until he was 11. He was very active at 4 and had considerable difficulty sitting and attending. Behavior problems were a recurrent problem. Working on verbal speech was very challenging, and so was working on an augmentative means of communication. Sign language was attempted with minimal success.

Parents were persistent that he continue to receive services even after my advice that he had perhaps passed the critical age and might not ever talk (this was at about age 7-8). However, at the age of 9, H. calmed down considerably (he had stopped taking Ritalin a year earlier) and within a span of 3 months went from single words to 2-3 word phrases. At the point of termination of therapy (he was to relocate with his family to a different country), H. was able to use 6-8 word sentences in an appropriate context with peers.

In conclusion the theories of language acquisition abounding in the literature do help in acclimatizing the budding clinician to a starting point in treatment.

It is however, not the be all and end all of everything. As with all theories, nothing is proven. Until that point they remain only theories and the clinician needs to use her better judgment that comes from her education, her experience and her inter-personal skills to decide if treatment is necessitated in the first place. She then needs to decide the mode of treatment, the frequency of treatment and the duration of treatment.

This should always be done in the best interest of the client and his/her family. As with all service related professions, the benefit to the client is paramount and this needs to be relayed to the client professionally.

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Taken from Within Earshot, Issue 6(1).