

What really happens when young children learn languages? We need to answer that question in order to guide our actions. Assumptions about children's minds guide government policy as well as parents' decision making. When the assumptions are wrong, they lead to unsatisfactory results—such as the depressed state of English in Japan.

Is learning a language such a delicate matter that early learning of bad forms causes lifetime damage? No. In the following paragraphs, I will explain how children learn languages, and then suggest some implications for teaching.

An infant has an urge to communicate, and will do so if at all possible. This urge is as strong as the infant's urge to love and trust his or her caregivers. In fact, it is an aspect of that urge. It comes right along with the need for food, warmth, and protection from wolves.

An infant will seize any means of communication. If people speak to the infant, he or she will respond in any and all languages, and soon learn to keep them separate. If only a sign language is offered (for example, when the infant or parents are deaf), the infant will learn the sign language and will speak it as a native speaker.

In the extreme case of the child's being unable either to see or to hear, the urge to communicate can express itself with force. This happened to Helen Keller (1880-1968), an American who lost her sight and hearing at the age of 19 months. In her autobiography, Keller wrote that, before she had a nurse who could help her communicate, she terrorized her family with temper tantrums. "After awhile," she wrote, "the need of some means of communication became so urgent that these outbursts occurred daily, sometimes hourly."

Learning is a complex process. Consider how language goes into the mind and how it comes out. On the input side, learning is slow accretion. Every experience changes the brain at least a little. On the output side, two processes are noticeable: slow improvements in understanding and precision, and quantum leaps of vocabulary and form.

Children do not cling to what they already know. It is as though they assume that their communication is imperfect, and they willingly relinquish old habits and embrace new ones.

For adults, because of a gradual hardening of knowledge in place, it is not so easy to give up habits. For adult second-language learners, the word *fossilization* is sometimes used to describe this reluctance to trade up from imperfect forms.

Esther Dromi of Tel Aviv University kept an exact record of the utterances of an infant, Keren, as she learned Hebrew as a first language. During her one-word period, which for Keren lasted from age 10-1/2 months until 17-1/2 months, Keren produced 337 different words or unanalyzed word combinations in intentional speech.

During the later part of her one-word period, Keren's language learning was characterized by many changes and replacements, including "additions of previously omitted phonemes; modifications of consonants and/or vowels; substitution of a distorted phoneme by a more approximated one; and a complete replacement of baby words by conventional words."

Werner Leopold (1896-1984) kept perhaps the world's most careful diary of the words spoken by a child as she grew up. He and his wife were raising their daughter, Hildegard, to be bilingual in English and German.

Leopold reported data on “mortality of words,” by which he meant words that Hildegard had used at least once, often immediately after hearing them, but which were not “alive in spontaneous use at the end of the second year.” By the time she was 2, Hildegard had used a total of 377 words, of which 136 were “non-permanent words” that she no longer used.

In general, there were two reasons for losing words: either they were baby words replaced by standard forms or they were not frequently used by people Hildegard was talking with. ===

Trading Up is a Biological Necessity

Trading old forms for new is a child's built-in strategy for developing all aspects of language, not just vocabulary. The trade-up strategy is dictated by physiology as well as by the brain's way of working.

A baby's voice quality and pronunciation change greatly in the first few years of life. Because babies are born with throats shorter than their oral cavities, they are physically unable to pronounce the sounds *ee*, *oo*, and *ah* (although proud parents may think they can hear those sounds). During the first five or six years of life, the pharynx (the echo box above the vocal cords and below the mouth) grows to a length about equal to that of the mouth.

As this equipment matures, the child develops precise neuromuscular control to produce the voice qualities and all the sounds in the languages he or she is speaking. In many languages, a few sounds are especially difficult and are mastered late. In English, some children have trouble with *r*, making a sound like *w*, or with *s*, making a sound like *th*. If such problems persist into primary school, a child may be ridiculed as talking like a baby. Ridicule is a very strong motive for improvement.

Grammatical forms and set phrases, too, go through changes. A famous example among linguists is the way English-speaking children learn the past tense of some irregular verbs. They are likely to do it in three steps. Typically, for example, they begin with “I went,” then they seem to backslide to “I goed,” and at last switch to a permanent “I went.”

Linguists conclude that both changes are upgrades. The first “I went” is just mimicking, not part of a larger pattern. The apparent backslide to “I goed” is really a transition to the regular pattern of past tense (which is wrong in this case), and the final change correctly uses the irregular form.

Psychologist Barry McLaughlin, now professor emeritus of the University of California, Santa Cruz, used the word *restructuring* to describe the sudden replacement of one form with another. McLaughlin commented that we need to understand what happens in the brain when it abandons one whole line of attack and commences another.

Although the switch from one form to another may appear sudden to an observer, we can infer that in the brain there has been growing support for the new form until at last a threshold is passed, and the new form is preferred over the old. A modern branch of neuropsychology called *connectionism* describes the working of the brain in these terms. It is as though myriads of neuronal connections, reacting to a situation, “vote” on the best pattern. Sometimes they vote an inferior pattern out of power. The notion that a child who learns a bad form is stuck with it for life is unscientific and makes for bad educational policy. Language learning is not a matter of internalizing a pattern once and for all, like injecting a

Children Learn Not by Injection but By Trading Up
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tattoo into the skin. Children learn languages by trading up, substituting new and better forms for old ones.

This conclusion should offer comfort to those who worry that they may damage a child's eventual mastery of English by allowing the child to hear questionable forms. There can be no permanent damage because children are built to continue trading up, homing in on patterns they feel are correct.

Parents whose English is imperfect need not worry that speaking English to their children will inflict permanent damage; that is impossible.

Teachers in schools need not be shy about being bad models for the students to copy. No teacher can be perfect in all things. Part of teaching English is helping students take responsibility for improving their own English skill. Students must, among other things, stay alert for different forms of English and adopt those that will be most useful to them.

This column aims to harmonize views of language teachers, theorists, parents and bureaucrats. Send e-mail to childs@tuj.ac.jp or letters to The Daily Yomiuri. The column will return on June 18. Childs, Ed.D., teaches in the Graduate College of Education and is a lecturer and program coordinator of continuing education at Temple University Japan, Tokyo.